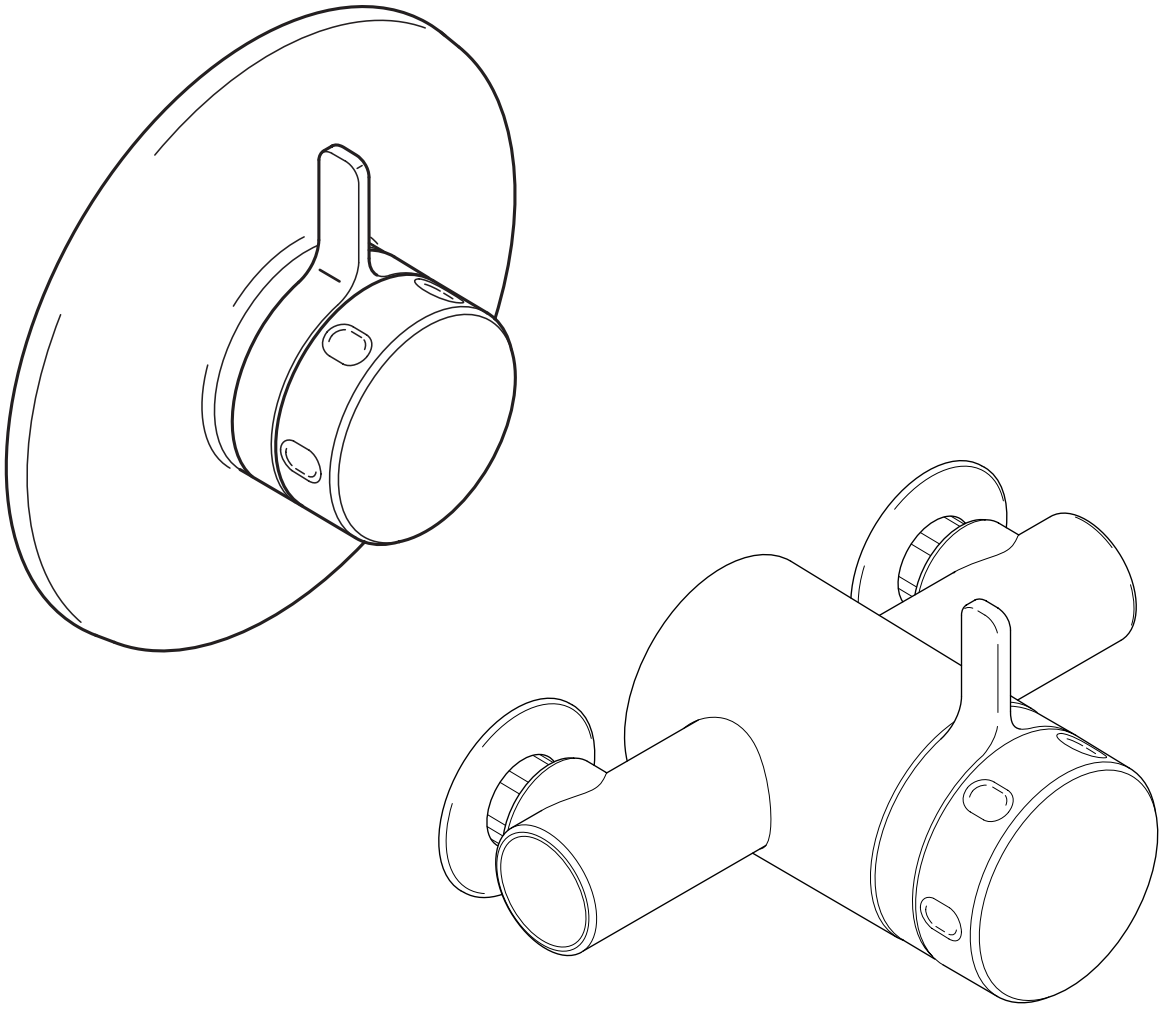
Select



MIRA SELECT

THERMOSTATIC MIXER

Installation and User Guide

These instructions must be left with the user.

CONTENTS

INTRODUCTION

Thank you for purchasing a quality Mira product. To enjoy the full potential of your new product, please take time to read this guide thoroughly. Having done so, keep it handy for future reference.

The Mira Select Thermostatic Mixer is a thermostatic Shower Control with separate flow and temperature controls.

The Thermostatic Mixer incorporates a wax capsule temperature sensing unit, which provides an almost immediate response to changes of temperature of the incoming water supplies to maintain the selected showering temperature. An adjustable temperature stop is provided which limits the maximum temperature to a safe level. Inlet Filters are fitted to protect the thermostatic cartridge.

Mira Select Exposed: Thermostatic Mixer for connection to rising, falling or rear entry pipework.

Mira Select Built-in: Thermostatic Mixer for connection to concealed pipework. Includes Right Angle Connector (RAC) for connecting concealed pipework to exposed shower fittings.

This product has been certified as a Type 2 valve under the BUILDCERT TMV2 scheme. This product also complies with the water supply (water fittings) regulations 1999.

Optimum performance of the Mira Select is achieved when used together with the Mira Select Shower Fittings.

Patents and Design Registration

Design Registration:	000578463-0004, 000578463-0005, 00578463-0006.
Patents:	GB: 2 291 693, 2 392 225, 2 421 297.
Patent Applications:	GB: 0512457.3. Euro: 1 672 257, 03254070.0.

If you experience any difficulty with the installation or operation of your new Thermostatic Mixer, please refer to **'Fault Diagnosis'**, before contacting Kohler Mira Ltd. Our telephone and fax numbers can be found on the back cover of this guide.

SAFETY : WARNINGS

This Mira Select Thermostatic Mixer is precision engineered and should give continued safe and controlled performance, provided:

1. It is installed, commissioned, operated and maintained in accordance with the manufacturer's recommendations.
2. Periodic attention is given, when necessary, to maintain the product in good functional order.

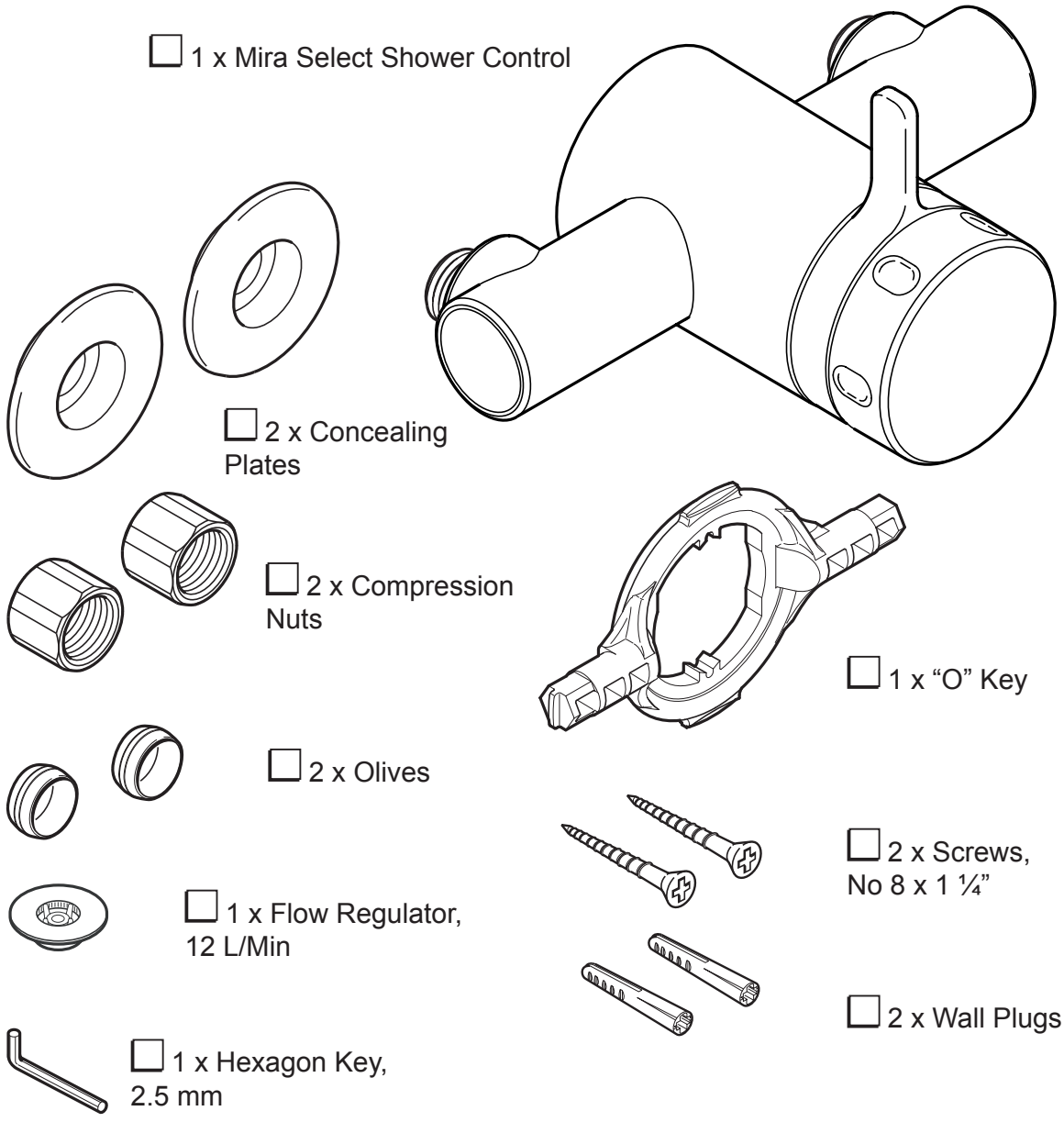
Caution!

1. Read all instructions.
2. Retain this guide for later use.
3. Pass on this guide in the event of change of ownership of the installation site.
4. Follow all warnings, cautions and instructions contained in this guide.
5. Anyone who may have difficulty understanding or operating the controls of any shower should be attended whilst showering. Particular consideration should be given to the young, the elderly, the infirm or anyone inexperienced in the correct operation of the controls.
6. When this product has reached the end of its serviceable life, it should be disposed of in a safe manner and in accordance with the current local authority recycling or waste disposal policy.

PACK CONTENTS

☑ Tick the appropriate boxes to familiarize yourself with the part names and to confirm that the parts are included.

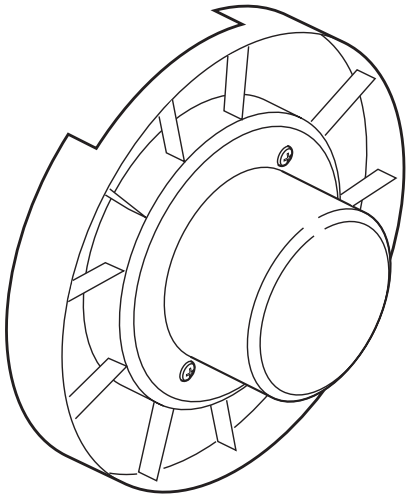
Exposed Select Thermostatic Mixer



Documentation

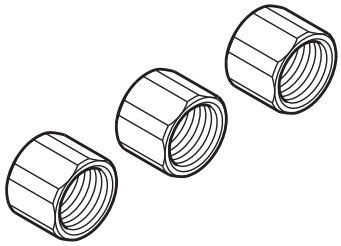
☐ 1 x Installation and User Guide
☐ 1 x Installation Template

Built-in Select Thermostatic Mixer



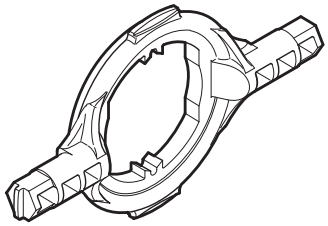
☐ 1 x Mira Select Shower Control (attached to the Building-in Shroud)

☐ 1 x Control Assembly

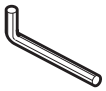


☐ 3 x Compression Nuts

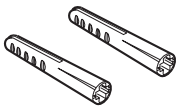
☐ 3 x Olives



☐ 1 x “O” Key

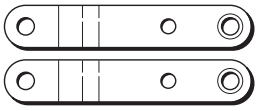


☐ 1 x Hexagon Key, 2.5 mm

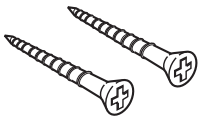


☐ 2 x Wall Plugs

☐ 1 x Flow Regulator, 12 L/Min

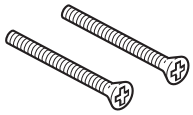


☐ 2 x Securing Brackets

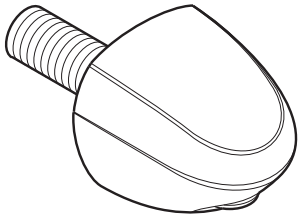


☐ 2 x Screws, No 8 x 1 ¼”

☐ 2 x Bracket Screws



☐ 2 x Screws, M5 x 40 mm



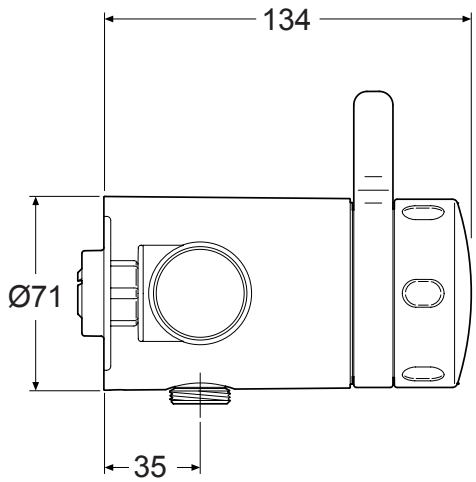
☐ 1 x Right Angle Connector Assembly (RAC)

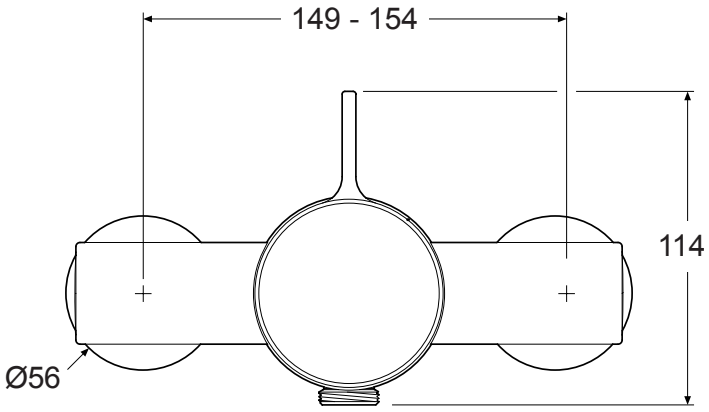
Documentation

☐ 1 x Installation and User Guide

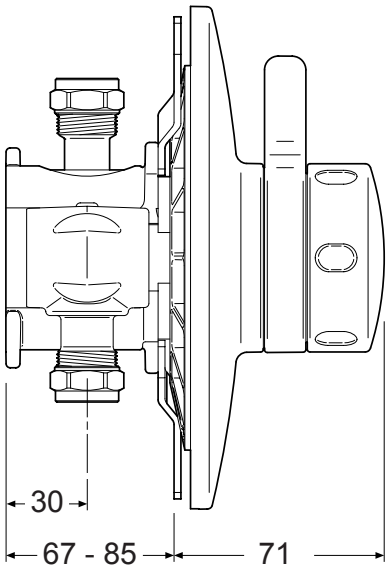
DIMENSIONS

Exposed Select Thermostatic Mixer

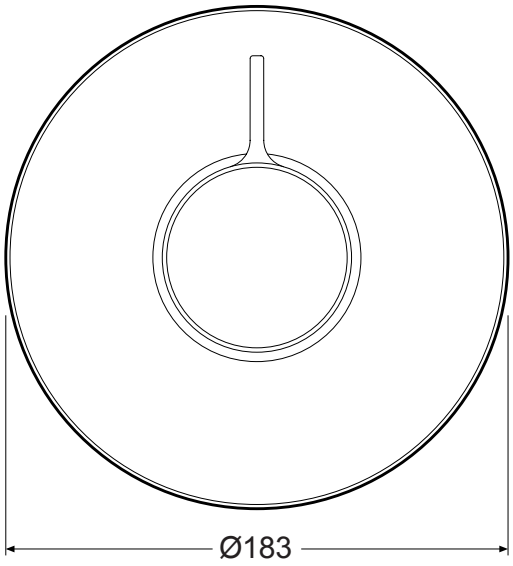




Built-in Select Thermostatic Mixer



Building-in Depth



All dimensions are in mm.

SPECIFICATIONS

Operating Parameters

For Type 2 valves, the supply conditions specified in section: **“Type 2 Valves - Application”** take precedence over the operating parameters which follow.

Pressures

Maximum Static Pressure: **10 bar**.

Maximum Maintained Pressure: **5 bar**.

Minimum Maintained Pressure (Gas Water Heater): **1.0 bar**.

Minimum Maintained Pressure (Gravity System): **0.1 bar**.

(0.1 bar = 1 metre head from the base of the cold tank to the outlet of the shower handset.)

Note! For optimum performance the inlet pressures should be nominally equal and should not exceed **3:1**, in favour of either supply, during flow.

Temperatures

Factory Preset Shower Blend Temperature: **43 °C**.

Optimum Thermostatic Control Range: **35 °C - 45 °C**.

(Achieved with supplies of 15 °C cold, 65 °C hot and nominally equal pressures.)

Maximum Hot Supply: **85 °C**.

Recommended Hot Supply: **60 °C - 65 °C**.

Minimum differential between Hot Supply and set Blend Temperature: **10 °C**.

Cold Water Range: **1 °C - 20 °C**.

Note! BS:6700 recommends that the temperature of stored hot water should never exceed 65 °C. A temperature of 60 °C is considered sufficient to meet all normal requirements and will minimise the build up of scale in hard water areas.

Connections

Exposed Mixer:

Inlets: 15 mm Compression, **Hot - Left, Cold - Right**.

Outlet: ½” BSP Flat Face, **Bottom - Outlet**.

Built-in Mixer:

Inlets: 15 mm Compression, **Hot - Left, Cold - Right**.

Outlet: 15 mm Compression, **Top - Outlet**.

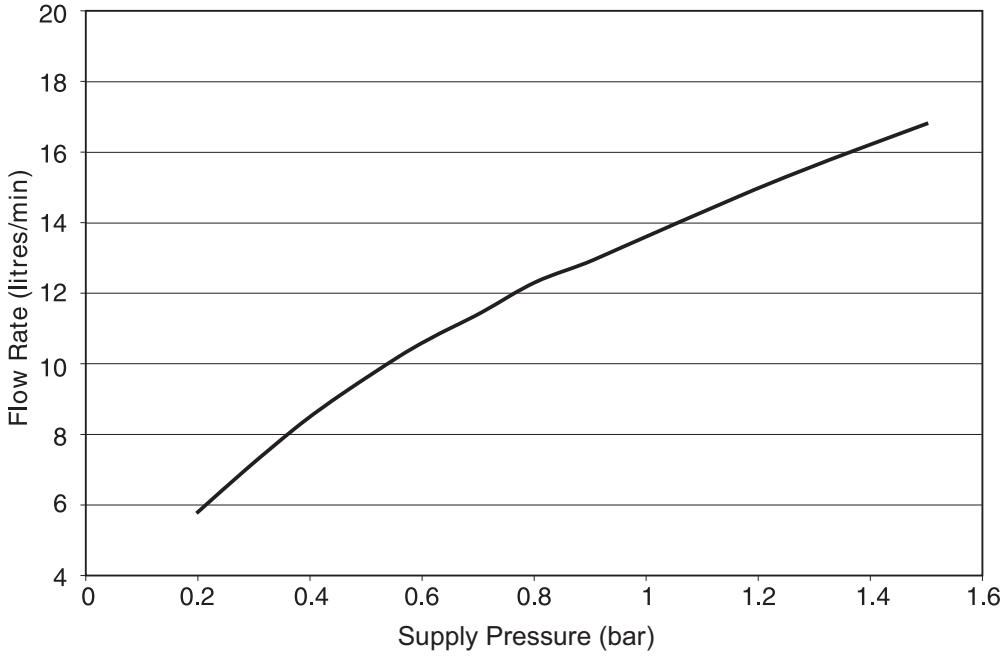
If reversed inlets are required refer to section: **“Reversed Inlet Supplies.”**

Thermostatic Shut-down

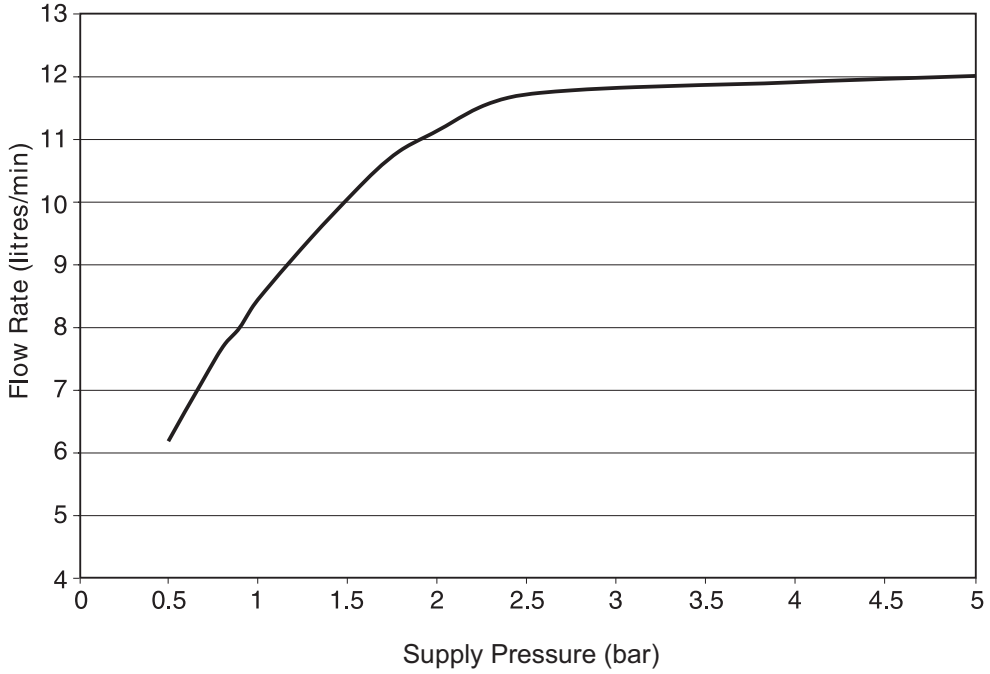
For safety, the thermostat will shut off the Hot Supply **within 2 Seconds** if the Cold Supply Fails. (Achieved only if the hot supply temperature is greater than 10°C above the set blend temperature.)

Flow Rates

Typical Flow Rates on Low Pressure Systems (0.1 bar to 1 bar) - Mira Select with Mira Select Adjustable Fittings or Rigid Head:

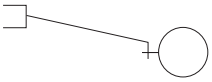


Typical Flow Rates on High Pressure Systems (1 bar to 5 bar, with 12 Litre/Min. Flow Regulator fitted in shower control outlet) - Mira Select with Mira Select Adjustable Fittings or Rigid Head:



INSTALLATION REQUIREMENTS

Key to Symbols

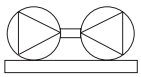

Float Valve


Isolating Valve


Thermostatic Mixer


Overflow Indicator


Pressure Reducing Valve


Twin Impeller Pump


Single Impeller Pump

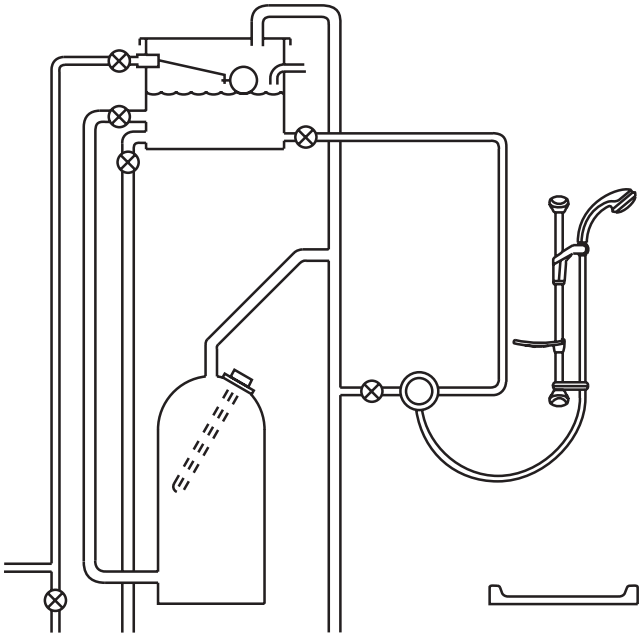

Tempering Valve


Mini Expansion Vessel

The Mira Select Thermostatic Mixer is compatible with the following systems:

Gravity fed system

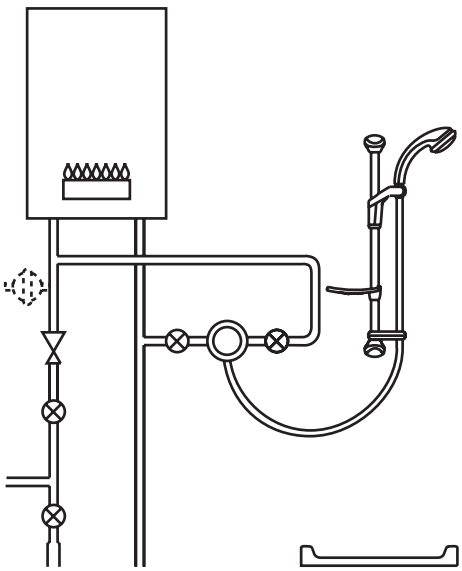
The Shower Control **MUST** be fed from a cold water cistern and hot water cylinder providing nominally equal pressures.



Gas heated system

The Shower Control **MUST** be installed with a gas water heater or combination boiler of a fully modulating design.

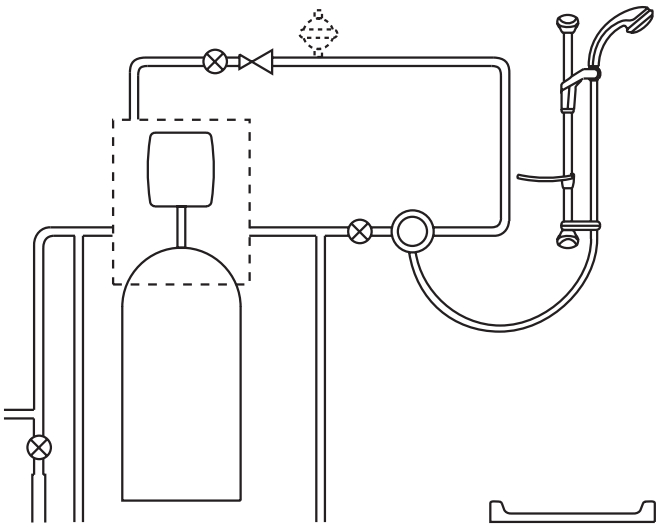
Note! We recommend the use of a 12 L/Min. Outlet Flow Regulator (supplied). However, it is possible following the installation of the Flow Regulator that the flow rate is reduced too much for the boiler to ignite. If this is the case remove the Flow Regulator.



Unvented mains pressure system

The Shower Control can be installed with an unvented stored hot water cylinder.

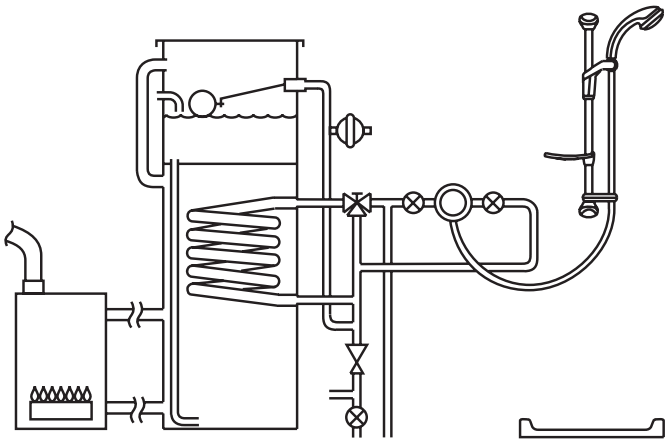
Note! We recommend the use of a 12 L/Min. Outlet Flow Regulator (supplied).



Mains pressurised instantaneous hot water system (thermal store)

The Shower Control can be installed with systems of this type that have balanced pressures.

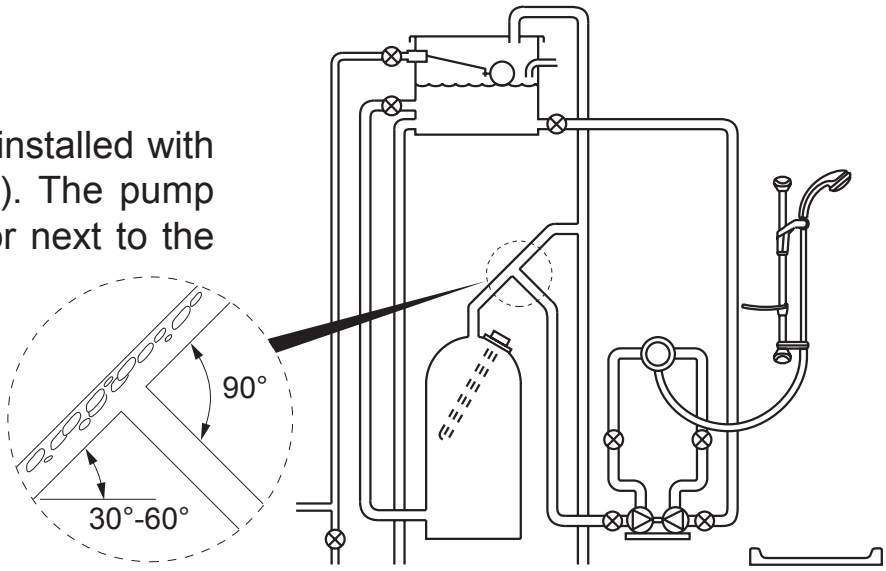
Note! We recommend the use of a 12 L/Min. Outlet Flow Regulator (supplied).



Pumped system

The Shower Control can be installed with an inlet pump (twin impeller). The pump must be installed on the floor next to the hot water cylinder.

Note! We recommend the use of a 12 L/Min. Outlet Flow Regulator (supplied).



Air Separation

INSTALLATION

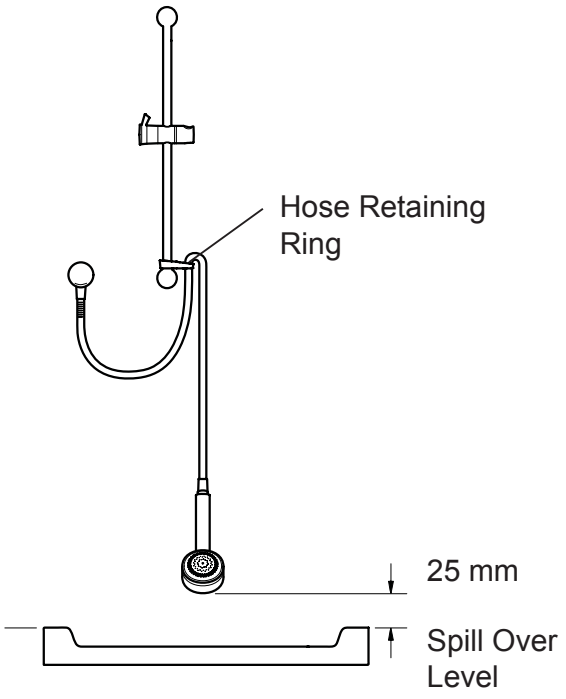
General

The installation must be carried out in accordance with these instructions, and must be conducted by designated, qualified and competent personnel.

The installation must comply with the "Water Supply Regulations 1999 (Water Fittings)" or any particular regulations and practices as specified by the local water company or water undertakers.

Note! Make sure that all site requirements correspond to the information given in section: **"Specifications."** For further details on Type 2 valves refer to supply conditions in section: "**Type 2 Valves.**"

1. The Mixer must not be installed in an area where it may freeze.
2. For stud partitions, alternative fixings may be required.
3. Isolating valves must be installed close to the Shower for ease of maintenance.
4. Pipework must be rigidly supported. Avoid any strain on the connections.
5. Pipework dead-legs should be kept to a minimum.
6. Supply pipework layout should be arranged to minimise the effect of any other outlet draw off upon the dynamic pressures at the Shower inlets, e.g. flushing toilet. This is particularly important for gravity fed installations.
7. Inlet and outlet threaded joint connections should be made with PTFE tape or liquid sealant. Do not use oil-based, non-setting joint compounds.
8. To eliminate pipe debris, it is essential that supply pipes are thoroughly flushed through before final connection.
9. Decide on a suitable position for the Mixer. The position of the Mixer and the Shower Fittings must provide a minimum gap of 25 mm between the spill-over level of the shower tray/bath and the handset. This is to prevent back-siphonage. For further information on the installation of the **Shower Fittings**, refer to the **"Shower Fittings Installation and User Guide."**



Note! Only use Shower Fittings recommended by the manufacturer or supplier.

Installation Methods

Exposed Select Thermostatic Mixer

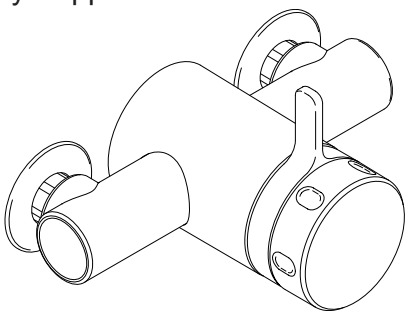
The **Exposed** Select Mixer can be installed with rear, rising or falling supply inlets.

The exposed model has inlet elbows which adjust between 149 mm - 154 mm. This feature assists the installation onto misaligned pipework.

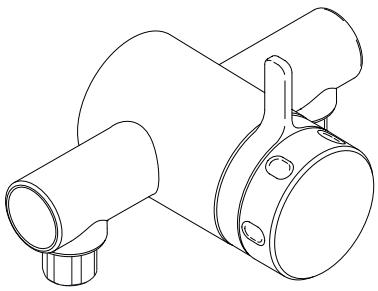
For rear entry supplies, refer to section: **"Exposed Thermostatic Mixer, 1. Rear Entry Supplies"** for further details.

For rising or falling supplies, refer to section: **"Exposed Thermostatic Mixer, 2. Rising or Falling Supplies"** for further details.

Rear Entry Supplies



Rising or Falling Supplies



Built-in Select Thermostatic Mixer

The **Built-in** Select Mixer can be installed with rising or falling supply inlets (rising inlets are illustrated).

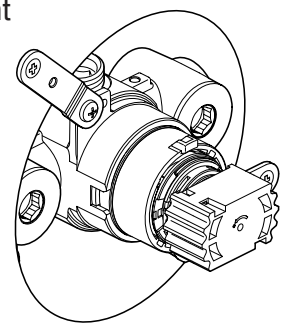
The unit can be installed using the rear fixing points, or by using the Securing Brackets (supplied) on the front surface of a solid wall or stud partition, or on the rear surface of a laminated panel.

For an installation into a solid wall or stud partition using the Securing Brackets, refer to section: **"Built-in Thermostatic Mixer, 1. Solid Wall or Stud Partition (Using Securing Brackets - Mounting on Front Face of Wall)"** for further details.

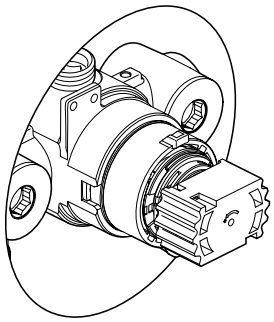
For an installation into a solid wall or stud partition using the rear fixing points, refer to section: **"Built-in Thermostatic Mixer, 2. Solid Wall or Stud Partition (Using Rear Fixing Points on Thermostatic Mixer)"** for further details.

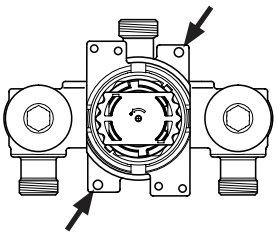
For an installation behind a laminated panel using the Securing Brackets, refer to section: **"Built-in Thermostatic Mixer, 3. Laminated Panel (Using Securing Brackets - Mounting on Rear Face of Wall)"** for further details.

Securing Brackets (mounting on front surface of wall)

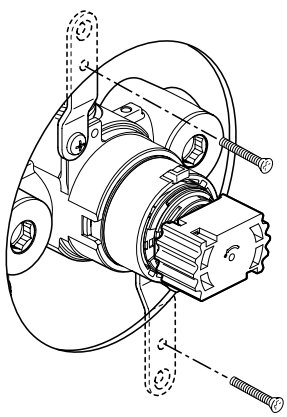


Mounting using rear fixing points





Securing Brackets (mounting on rear surface of wall)

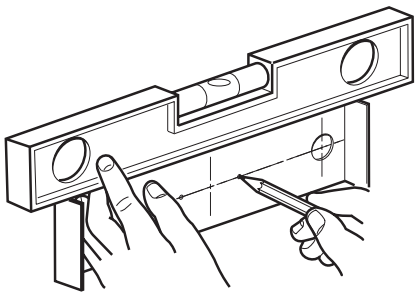


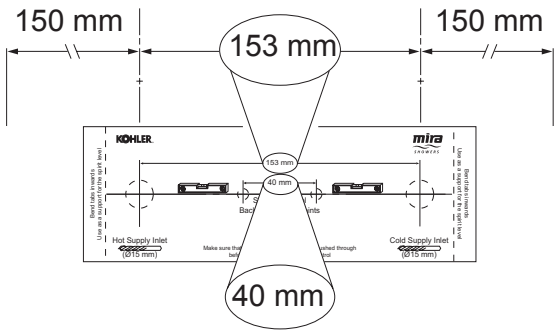
Exposed Thermostatic Mixer

1. Rear Entry Supplies (rising or falling concealed pipework)

1.1 Use the Installation Template to mark the positions of the holes for the Backplate and the pipe centres.

Note! Allow a minimum of 150 mm either side of the unit, to allow access to the hot and cold Inlet Filters for servicing.





1.2 For solid walls drill the holes for the Backplate with a 6 mm diameter drill and insert the Wall Plugs (supplied). For other types of wall structure alternative fixings may be required (not supplied).

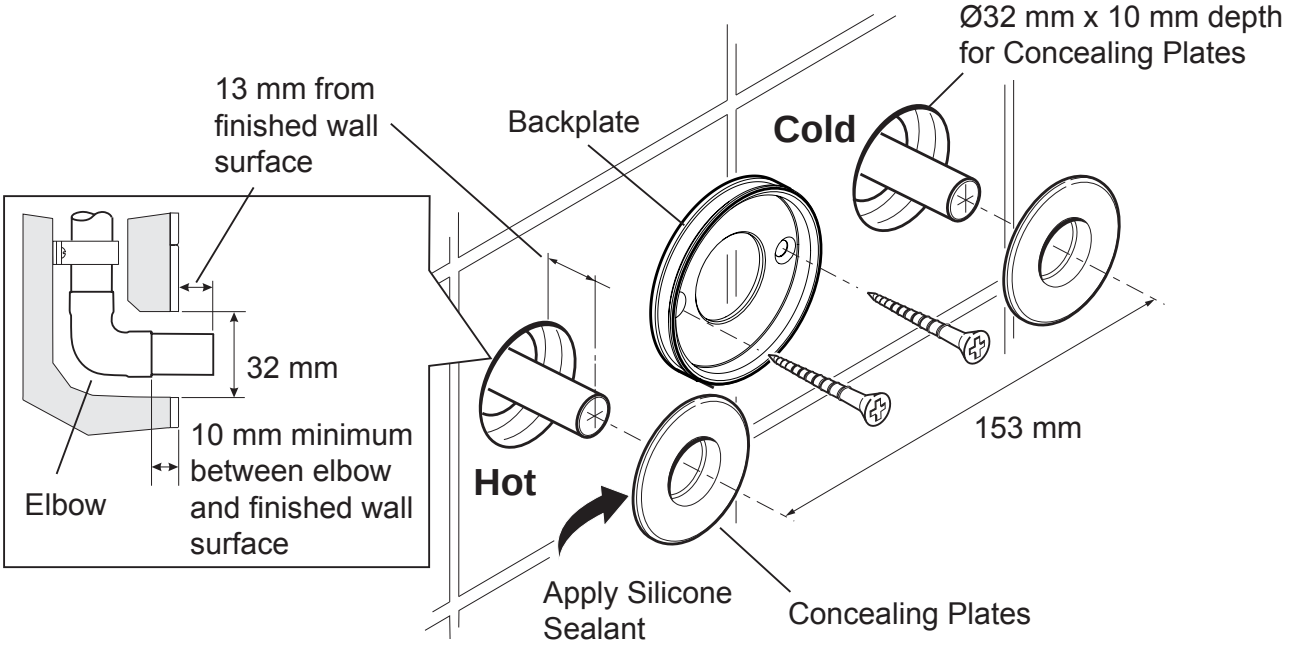
1.3 Drill the holes for the supply pipes at 153 mm centres.

1.4 Create a recess in the wall to allow for the Concealing Plates, 32 mm diameter x 10 mm deep.

Note! Depth must be sufficient to prevent the Concealing Plates fouling on the plumbing Elbows.

1.5 Fit the supply pipework (**Hot - Left, Cold - Right**). The pipework must project 13 mm from the finished wall surface at 153 mm centres (use the Installation Template as a guide).

Note! If the connections are reversed, complete the installation then refer to section: **"Reversed Inlet Supplies"** before commissioning.



1.6 Loosen the Grubscrew with the 2.5 mm Hexagon Key (supplied) and remove the Backplate from the unit.

1.7 Secure the Backplate to the wall using the Screws (supplied).

1.8 Fit the Concealing Plates.

Note! Apply silicone sealant to the back face of the flange.

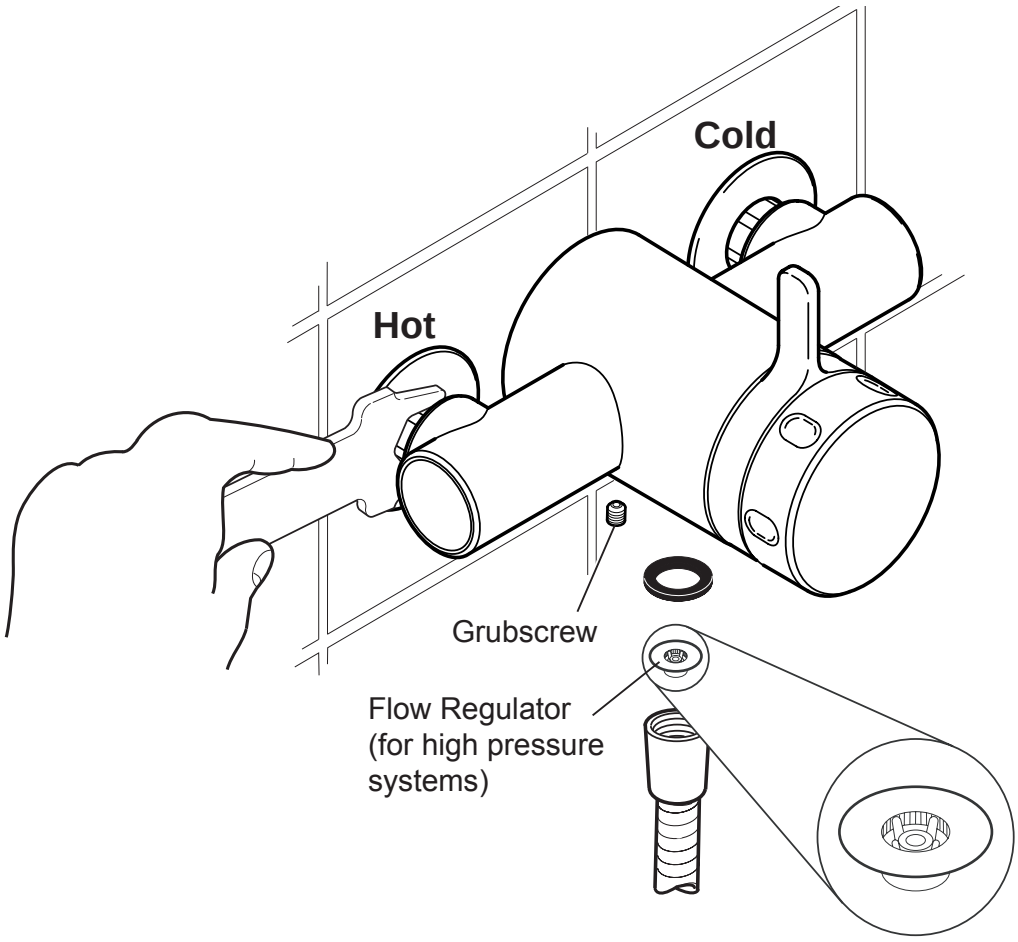
Caution! It is essential at this point that the supply pipework is thoroughly flushed through before connection to the unit. Failure to do so may result in product malfunction.

1.9 Fit the Compression Nuts and Olives onto the pipework.

1.10 Align the unit with the pipework and fit onto the Backplate. Minor misalignment of the pipework can be accommodated by the inlets, which are adjustable between 149 and 154 mm centres.

1.11 Tighten the Compression Nuts onto the Elbows with a suitable spanner.

Caution! Take care not to damage the chrome surfaces.



1.12 Tighten the Grubscrew to secure the unit to the Backplate.

1.13 Fit the **Shower Fittings**. Refer to **"Shower Fittings Installation and User Guide"** for instructions.

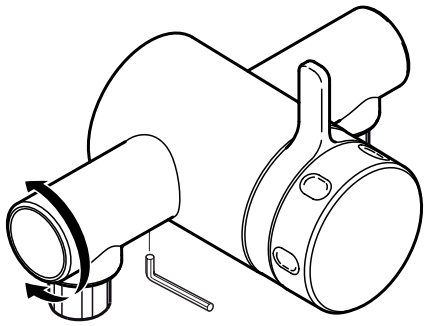
Note! For high pressure systems, a 12 litre/minute white Flow Regulator (supplied) can be fitted under the Hose Washer (refer to illustration).

1.14 Turn on the hot and cold water supplies and check for leaks.

1.15 Before using the Shower, refer to section: **"Commissioning"** for testing the unit is operating correctly.

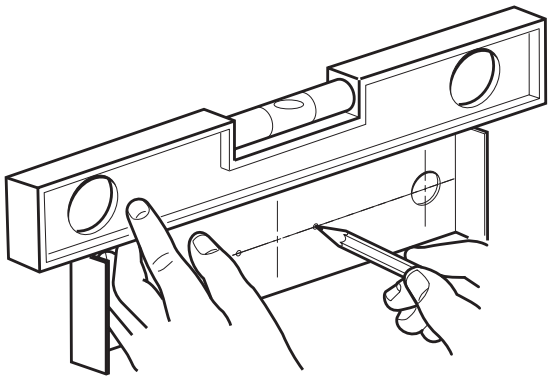
2. Rising or Falling Supplies

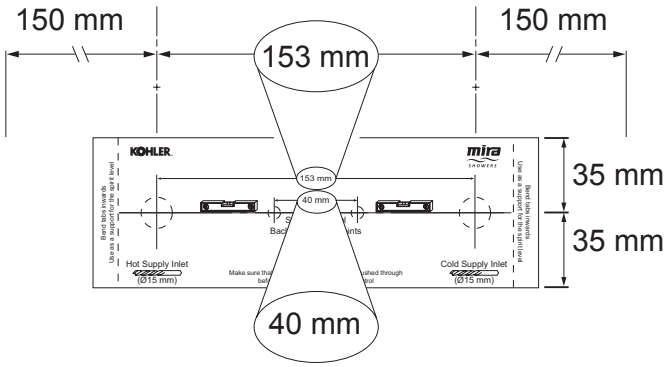
2.1 Loosen the Grubscrew on each Elbow using the 2.5 mm Hexagon Key (supplied) and rotate the Elbow 90° as required. Retighten the Grubscrews.



2.2 Use the Installation Template to mark the positions of the fixing holes for the Backplate.

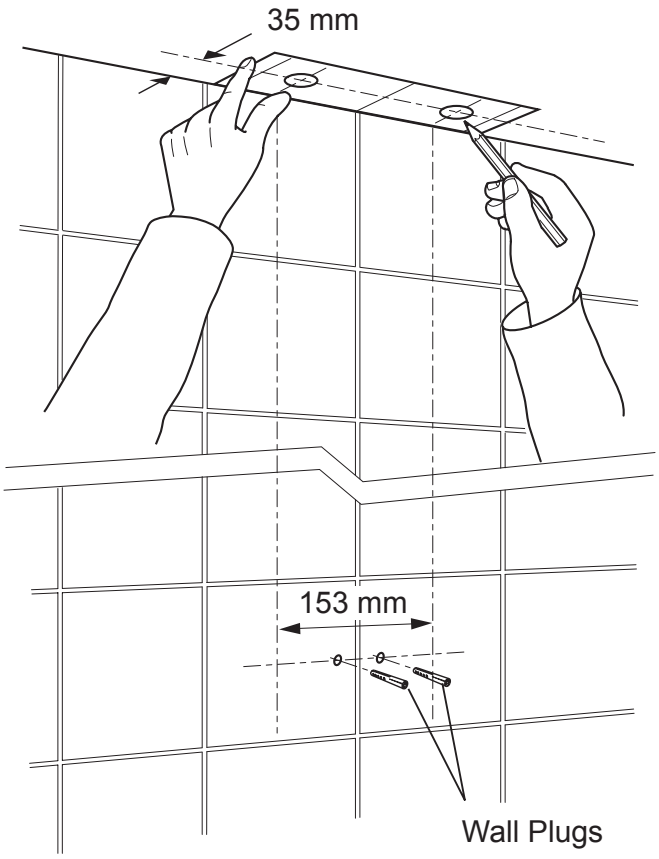
Note! Allow a minimum of 150 mm either side of the unit to allow servicing of the hot and cold Inlet Filters.





2.3 For solid walls, drill the holes for the Backplate with a 6 mm diameter drill and insert the Wall Plugs (supplied). For other types of wall structure, alternative fixings may be required (not supplied).

2.4 **For both rising and falling supplies:** Using the Installation Template as a guide, mark the pipe positions on the ceiling and set the centres 35 mm from the finished wall (refer to illustration).



2.5 Fit the supply pipework (**Hot - Left, Cold - Right**).

Note! If the connections are reversed, complete the installation then refer to section: **"Reversed Inlet Supplies"** before commissioning.

2.6 Loosen the Grubscrew with the 2.5 mm Hexagon Key (supplied) and remove the Backplate from the Mixer.

2.7 Secure the Backplate to the wall using the Screws (supplied).

Caution! It is essential at this point that the supply pipework is thoroughly flushed through before connection to the unit. Failure to do so may result in product malfunction.

2.8 Fit the Compression Nuts and Olives onto the pipework.

2.9 Align the unit with the pipework and fit onto the Backplate. Minor misalignment of the pipework can be accommodated by the inlets, which are adjustable between 149 and 154 mm centres.

2.10 Tighten the Compression Nuts onto the Mixer with a suitable Spanner.

Caution! Take care not to damage the chrome surfaces.

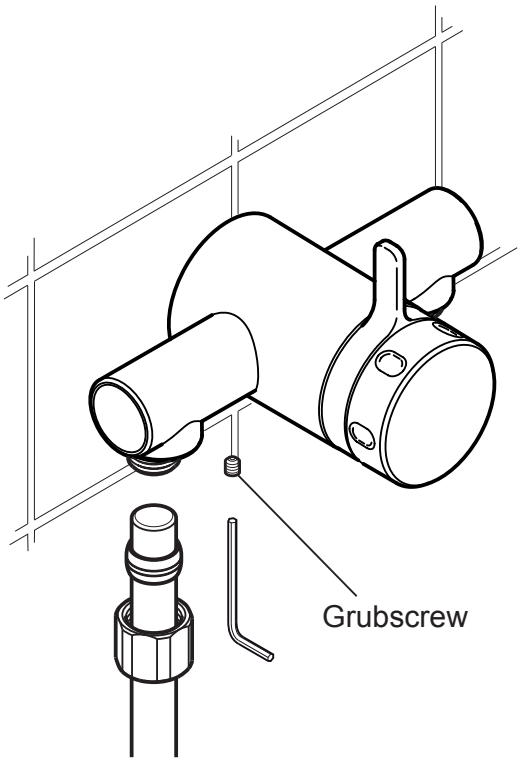
2.11 Tighten the Grubscrew to secure the unit to the Backplate.

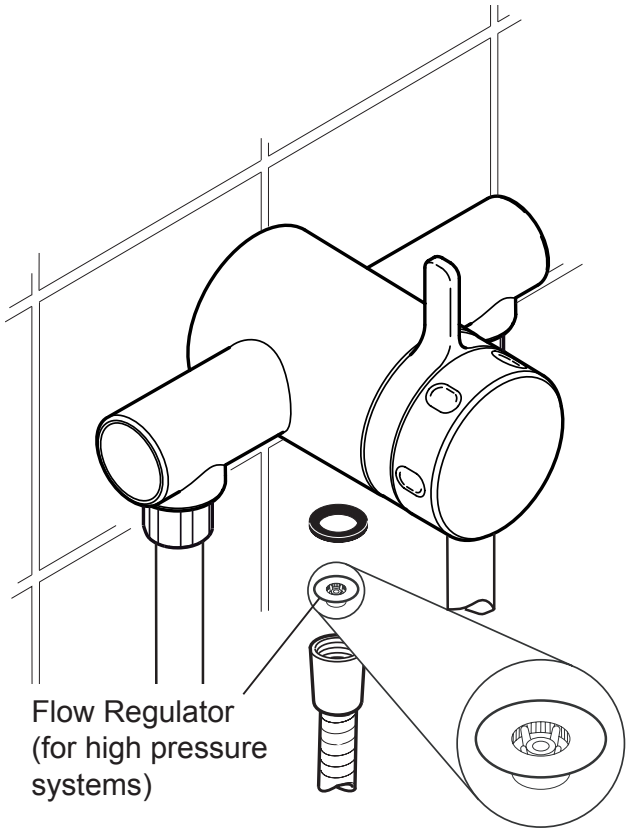
2.12 Fit the **Shower Fittings**. Refer to the **"Shower Fittings Installation and User Guide"** for further details.

Note! For high pressure systems, a 12 litre/minute white Flow Regulator (supplied) can be fitted under the Hose Washer (refer to illustration).

2.13 Turn on the hot and cold water supplies and check for leaks.

2.14 Before using the Shower, refer to section: **"Commissioning"** for testing the unit is operating correctly.





Built-in Thermostatic Mixer

1. Solid Wall or Stud Partition (Using Securing Brackets - Mounting off Front Face of Wall)

1.1 Determine the route for the hot and cold supply pipework and for the outlet pipework. When connecting to the BIV Shower Fittings it is recommended that the outlet be positioned above and to one side of the unit. This is to prevent the Flexible Hose from obstructing the Shower Controls.

1.2 Remove the two Shroud Screws (retain for later use) and separate the unit from the Building-in Shroud.

1.3 Determine the position of the unit and draw around the Building-in Shroud.

1.4 Mark the routes for the hot and cold supply pipework at 108 mm centres (**Hot - Left, Cold - Right**).

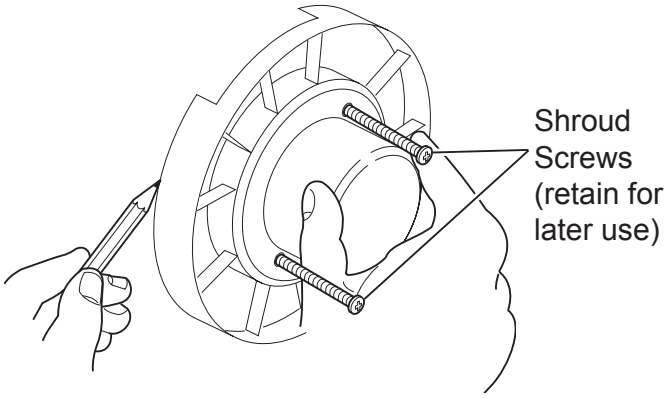
Falling supplies: For falling supplies loosen the Grubscrew on each Elbow using the 2.5 mm Hexagon Key (supplied). Remove the Elbows and install on opposite sides. Retighten the Grubscrews.

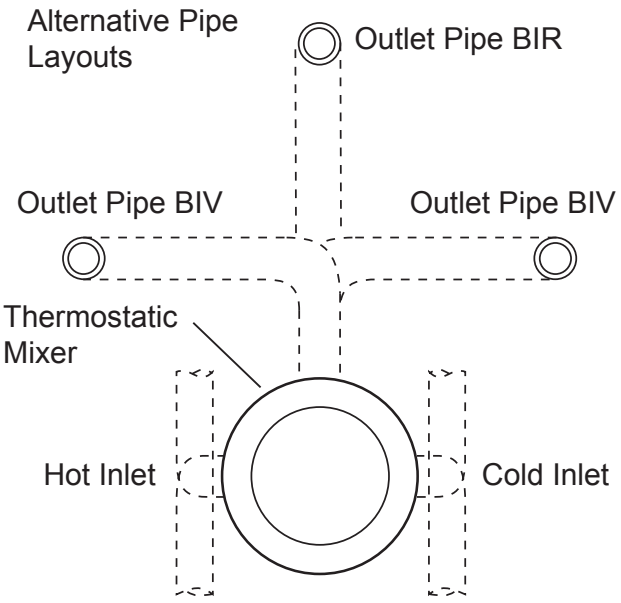
Note! Make sure that the 'O' Seals are correctly fitted and that the Filter Plugs are positioned to the front (i.e. hexagonal key hole facing forward).

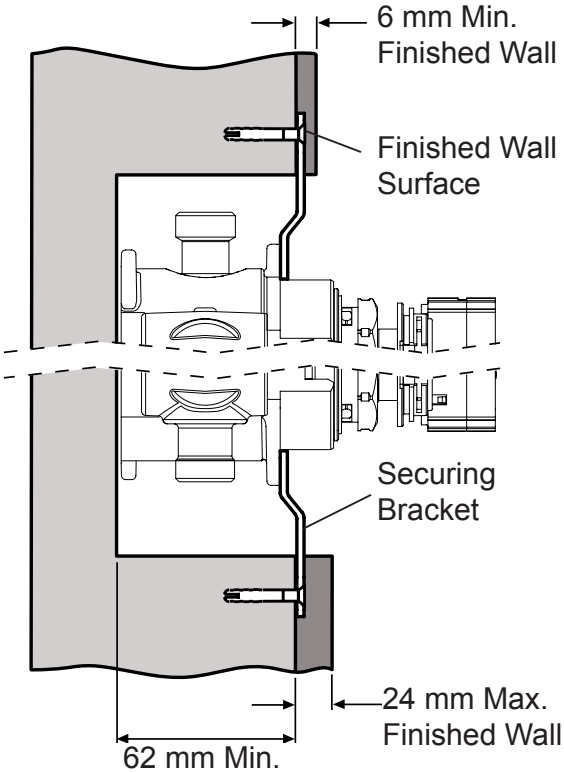
1.5 Mark the route for the outlet pipework.

Note! The Outlet Elbow should be sited above the unit and on the right or left, as site dictates.

1.6 Remove the plasterboard and/or brick work to a minimum depth of 62 mm.







1.7 Fit the Securing Brackets to the unit with the Bracket Screws.

Important! Make sure that the correct holes are used, otherwise the Backplate cannot be fitted.

Note! The Securing Brackets can be rotated for suitable fixing points.

1.8 Making sure that the unit is level, mark the positions for the countersunk fixing holes on the wall.

1.9 For solid walls, drill two 6 mm diameter holes for the Wall Plugs.

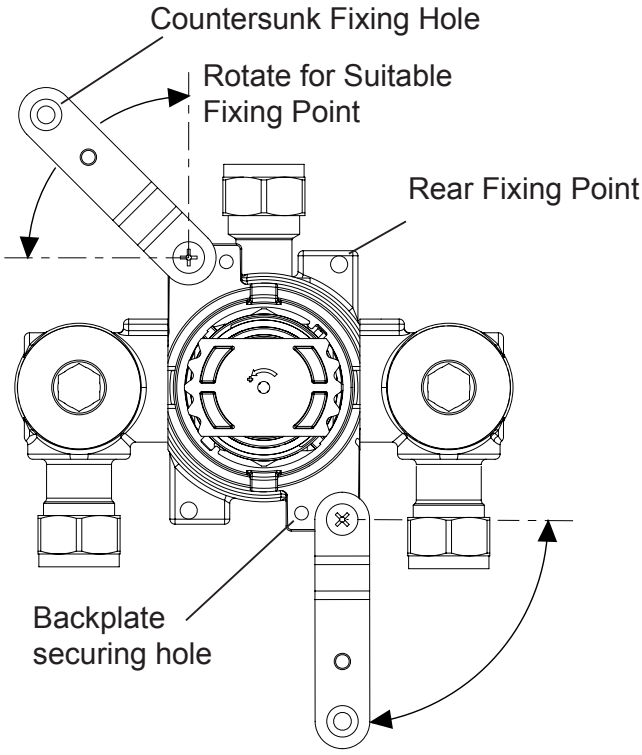
Caution! Do not drill into pipes or electrical cables buried in the wall.

1.10 Fit the Wall Plugs provided and fix the unit to the wall with the Screws provided.

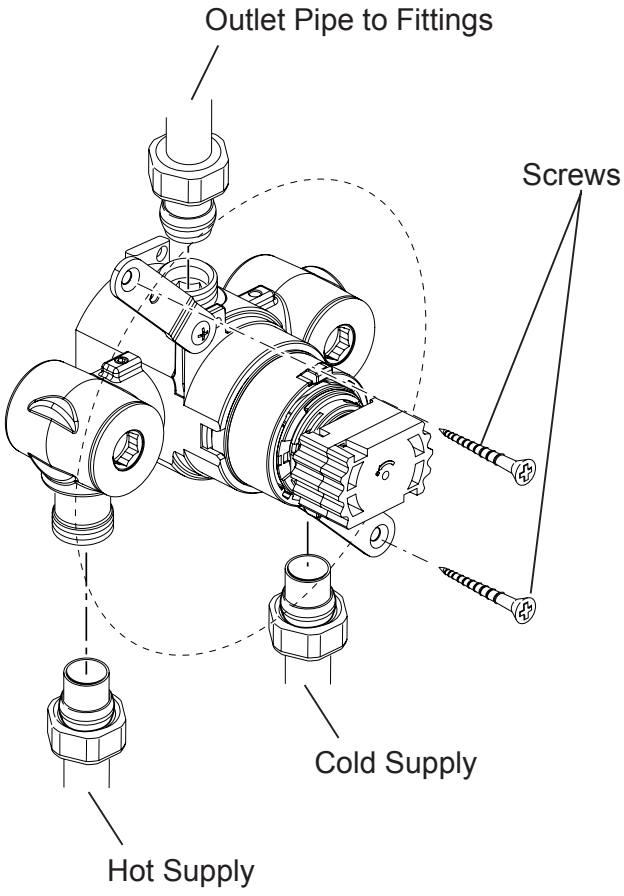
Note! For stud partition installations, alternative fixings may be required (not supplied).

1.11 Connect the hot and cold supply pipes and tighten the Compression Nuts.

Caution! Make sure that the Olives are fitted and all pipework is flushed through before connecting to the unit.



Note! Securing Brackets shown in preferred position to allow the Compression Nuts to be tightened.



1.12 Connect the outlet pipework, leaving enough pipe to connect a 1/2” BSP female fitting (not supplied) to the Right Angle Connector (RAC) assembly.

1.13 When the 1/2” BSP female fitting and brass nipple have been fitted to the outlet pipework, temporarily seal off the open end with an appropriate fitting (not supplied) and turn on the water supplies to check for leaks.

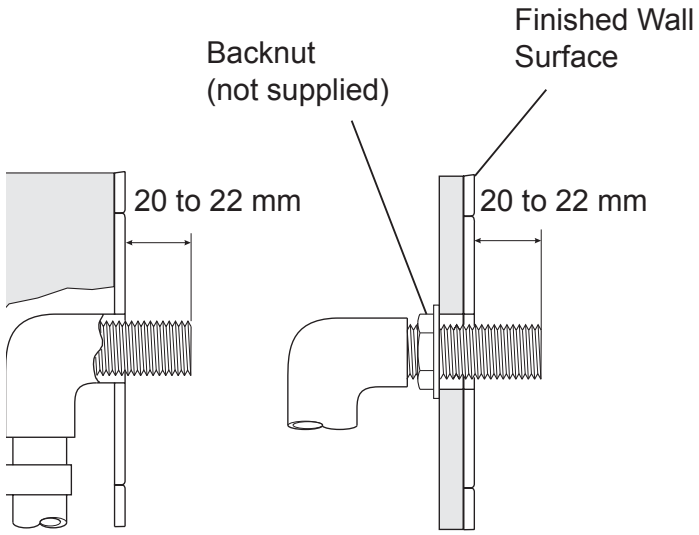
1.14 Attach the Building-in Shroud to the unit using the two Shroud Screws removed earlier.

1.15 Using the Building-in Shroud as a guide, finish the wall, e.g. tiles.

Caution! Make sure that the finished wall is within the maximum and minimum limits and to an even depth (no greater than 2 mm variation) or the control components will not fit correctly.

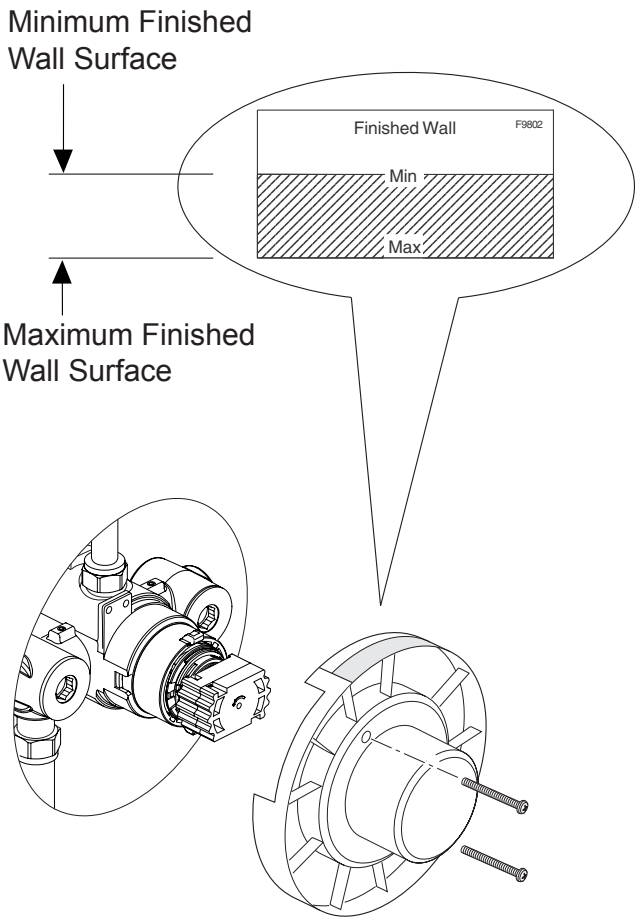
1.16 Remove the two Shroud Screws (retain for later use) and remove the Building-in Shroud.

1.17 Fit the Concealing Plate and Control Assembly. Refer to section: **“Control Assembly”** for further details.

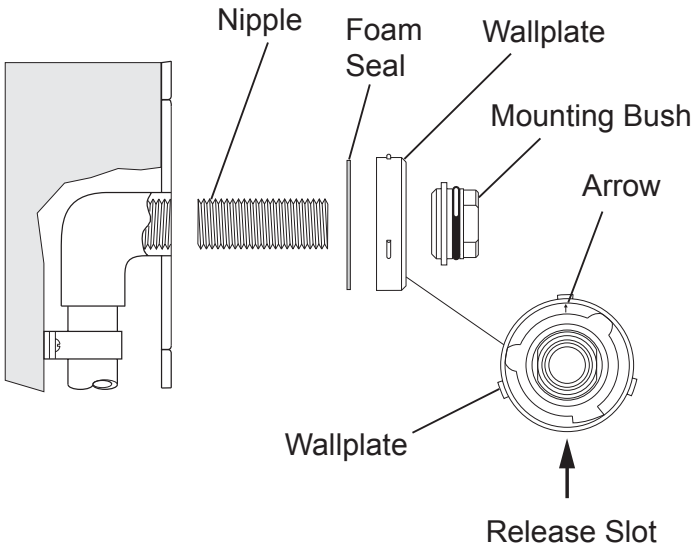


Solid or Dry-lined wall

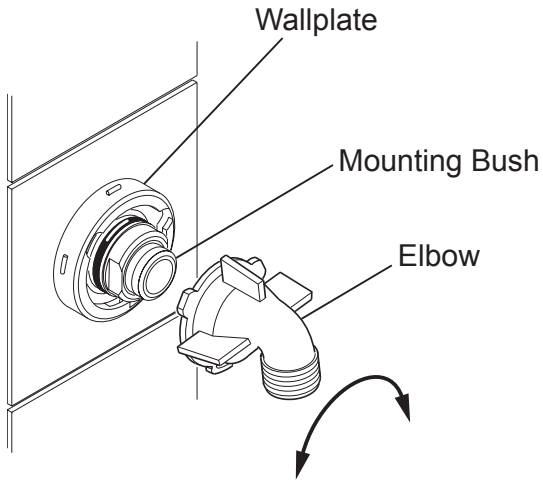
Laminated Panel or Stud Partition wall



1.18 Apply liquid sealant or PTFE tape to the exposed end of the Brass Nipple. Screw the Mounting Bush on until the Wallplate is loosely clamped against the wall. Then rotate the Wallplate and position as shown to align the arrow and release slot. Tighten the Mounting Bush with a 24 mm A/F spanner.



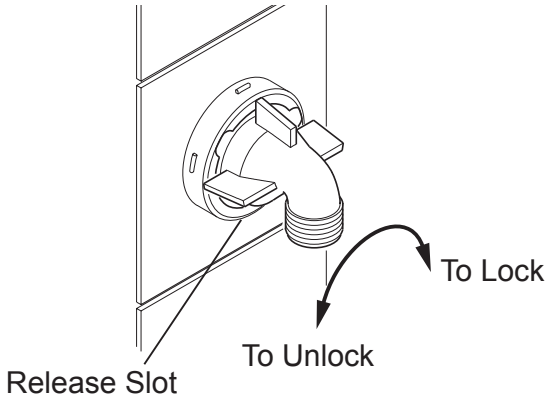
1.19 Push the Elbow fully into the Wallplate and rotate it clockwise. A "click" will indicate when it is locked. To unlock, use a small flat blade screwdriver and insert it into the release slot on the underside. Then turn the Elbow anticlockwise until it is released from the Wallplate.

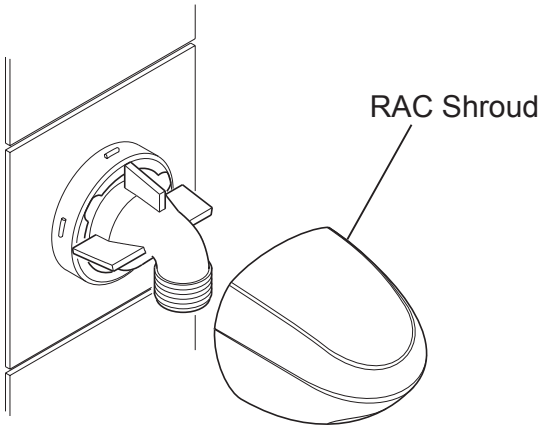


1.20 Locate the Shroud over the Elbow, then carefully push until it "clicks" into place securely.

1.21 Fit the **Shower Fittings**. Refer to the **"Shower Fittings Installation and User Guide"** for further details.

Note! For high pressure systems, a 12 litre/minute white Flow Regulator (supplied) can be fitted under the Hose Washer.





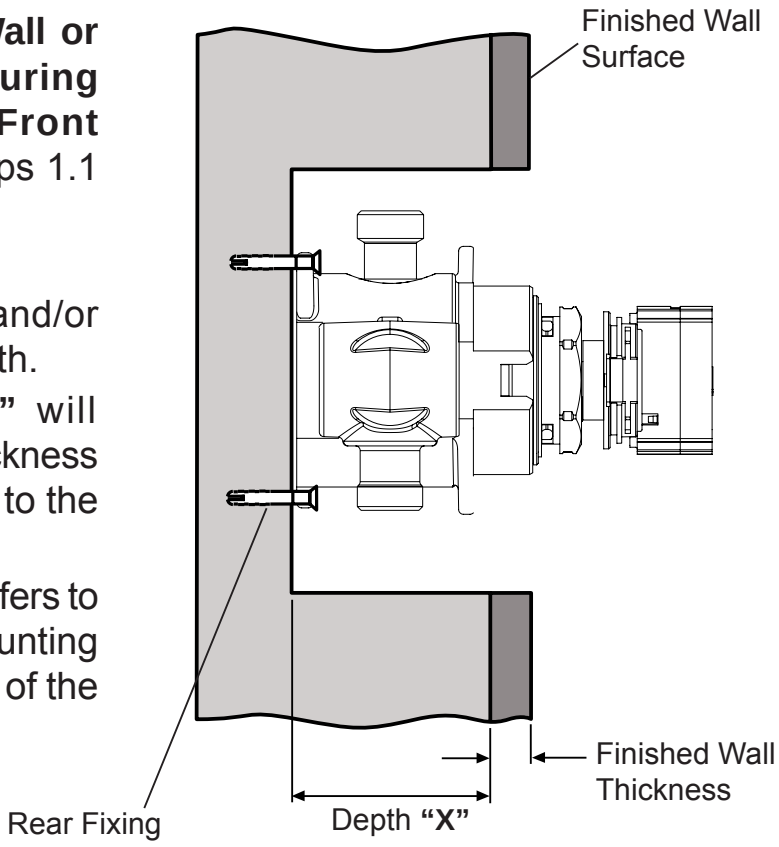
2. Solid Wall or Stud Partition (Using Rear Fixing Points on the Thermostatic Mixer)

2.1 Refer to section: **"1. Solid Wall or Stud Partition (Using Securing Brackets - Mounting off Front Face of Wall)"** and follow steps 1.1 to 1.4.

2.2 Cut away the plasterboard and/or brick work to the required depth.

Important! This depth **"X"** will depend on the finished wall thickness e.g. tiles or facia board. Refer to the table for this measurement.

For stud partitions depth **"X"** refers to the distance from the rear mounting e.g. timber noggin, to the front of the wall (before tiling).



Finished Wall Thickness (e.g. tile and adhesive)	Wall Cutout Depth "X"
4 mm	81 - 63 mm
6 mm	79 - 61 mm
8 mm	77 - 59 mm
10 mm	75 - 57 mm
12 mm	73 - 55 mm
14 mm	71 - 55 mm
16 mm	69 - 55 mm
18 mm	67 - 55 mm
20 mm	65 - 55 mm
22 mm	63 - 55 mm
24 mm	61 - 55 mm

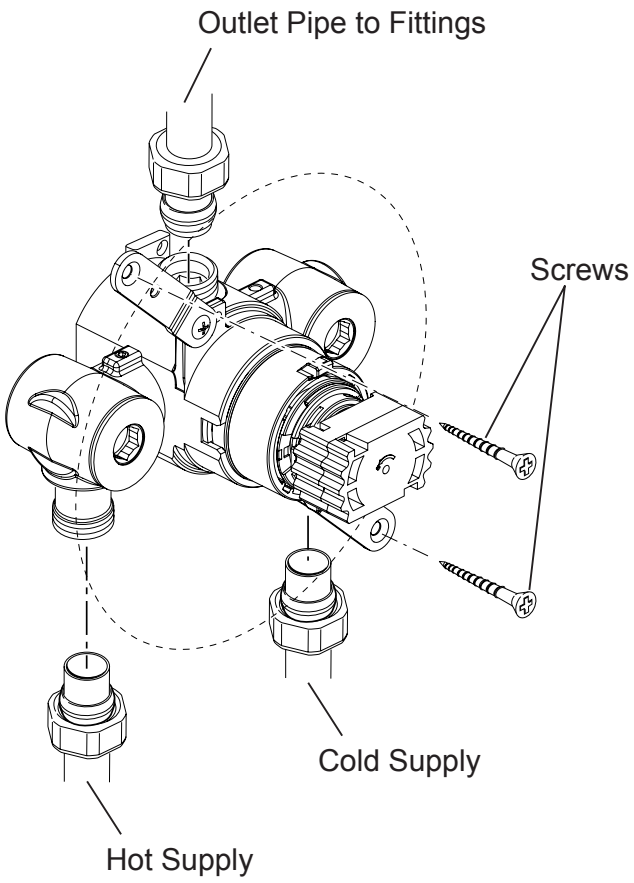
2.3 Make sure that the unit is level, central in the hole and square to the finished wall surface. This is to make sure the chrome trim and control handles will fit correctly. Then mark the positions of the Fixing Screw holes on the wall.

2.4 For solid walls, drill two 6 mm holes for the Wall Plugs.

2.5 Insert the Wall Plugs (supplied) and attach the unit to the wall with the Screws provided.

Note! For stud partition installations alternative fixings may be required (not supplied) to fix the unit to the rear face of the wall cavity or to a timber noggin.

2.6 Refer to section: **"1. Solid Wall or Stud Partition (Using Securing Brackets - Mounting off Front Face of Wall)"** and follow steps 1.10 to 1.21.



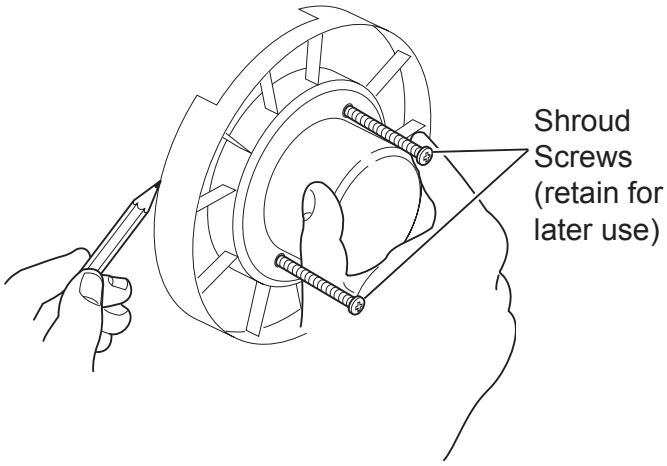
3. Laminated Panel
(Using Securing Brackets - Mounting on Rear Face of Wall)

Note! For laminated panels the unit must be positioned from the rear of the panel.

Panel thickness must be between 4 and 12 mm. (If a thicker panel is used, it will be necessary to recess the Securing Brackets into the rear of the panel.)

Important! Make sure that there is a minimum clearance of 64 mm behind the laminated panel to accommodate the unit.

3.1 Remove the two Shroud Screws (retain for later use) and separate the unit from the Building-in Shroud.



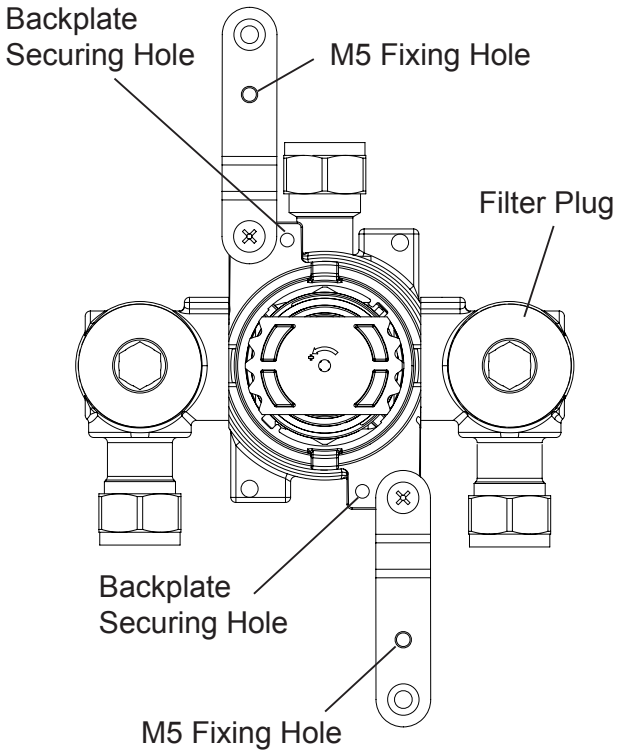
3.2 Mark the position of the unit using the Building-in Shroud as a guide.

3.3 Carefully cut out the laminated panel.

3.4 Fit the Securing Brackets to the unit.

Important! The Securing Brackets must be fixed vertically, as illustrated.

Important! Make sure that the correct holes are used, otherwise the Backplate cannot be fitted.



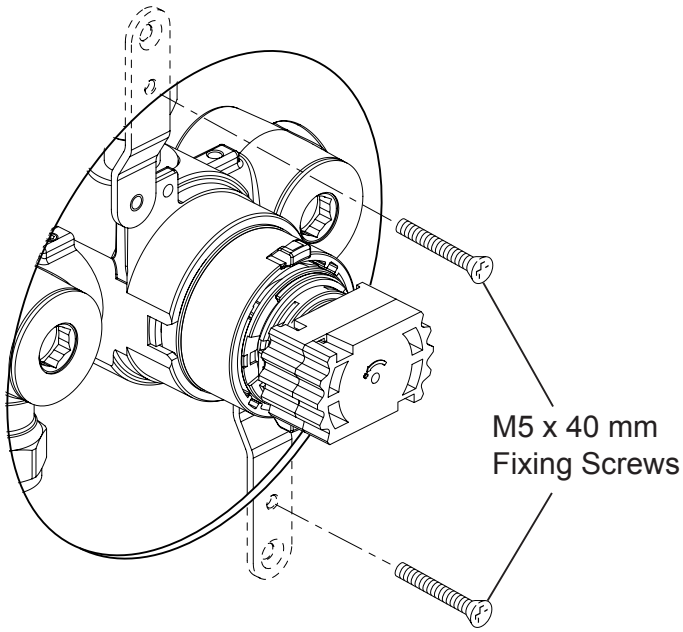
3.5 Position the unit on the front of the panel, make sure that it is level and central in the hole, then mark the position of the M5 fixing holes.

Important! Make sure that the correct holes are used (refer to illustration).

Note! Make sure that the Filter Plugs are positioned so that they can be removed for servicing.

3.6 Drill the two 5.5 mm holes for the fixing positions (countersink the holes at the front).

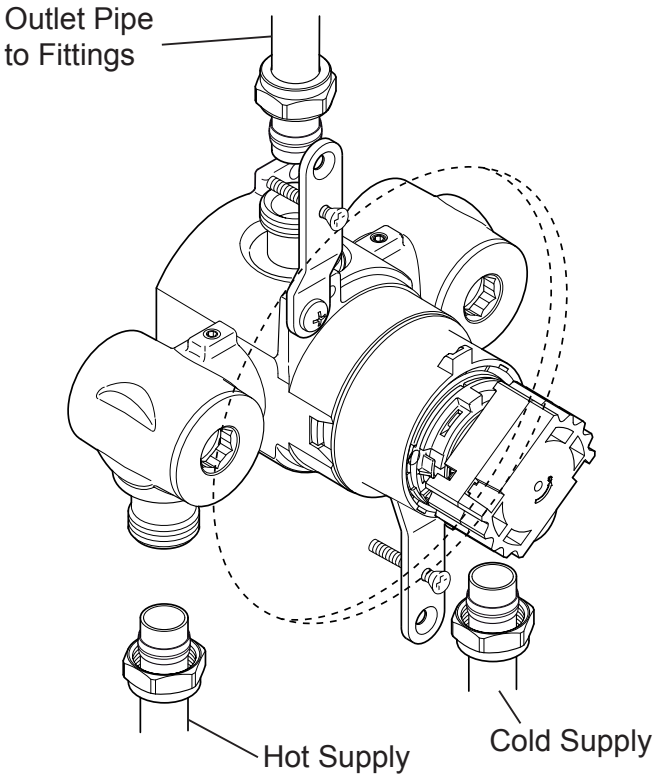
3.7 Secure the unit with the M5 x 40 mm screws as shown.



3.8 Fit the hot and cold supply pipes (**hot - left, cold - right**) and tighten the compression nuts.

Caution! Make sure that the olives are fitted and all pipework is flushed through before connecting to the unit.

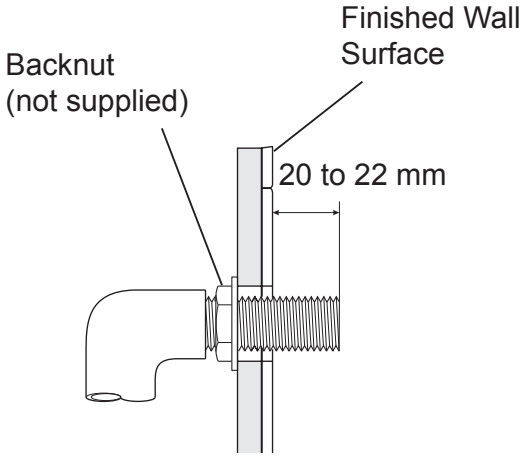
3.9 Connect the outlet pipework, leaving enough pipe to connect a 1/2" BSP female fitting (not supplied) to the Right Angle Connector (RAC) assembly.



3.10 When the 1/2" BSP female fitting and brass nipple have been fitted to the outlet pipework, temporarily seal off the open end with an appropriate fitting (not supplied) and turn on the water supplies to check for leaks.

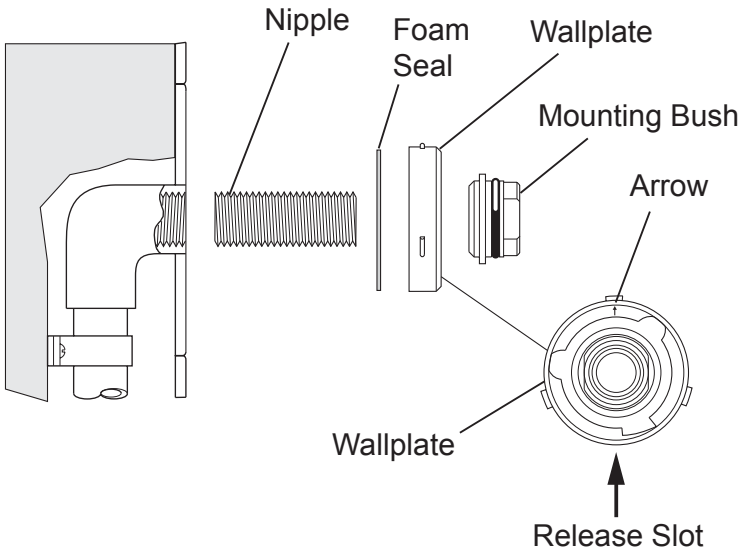
3.11 Fit the **Shower Fittings.** Refer to the **"Shower Fittings Installation and User Guide"** for further details.

Note! For high pressure systems, a 12 litre/minute white Flow Regulator (supplied) can be fitted under the Hose Washer.

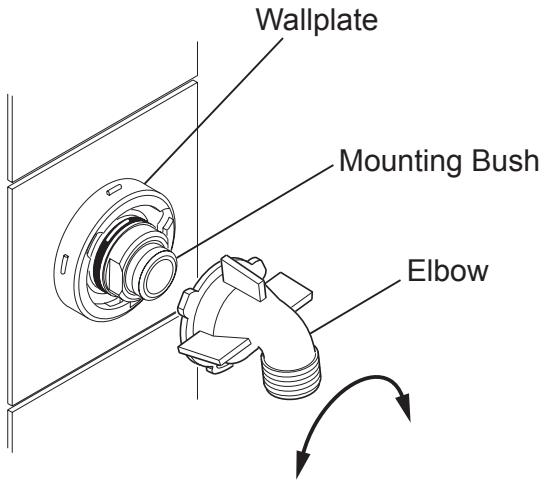


3.12 Fit the Concealing Plate and Control Assembly. Refer to section: **"Control Assembly"** for further details.

3.13 Apply liquid sealant or PTFE tape to the exposed end of the Brass Nipple. Screw the Mounting Bush on until the Wallplate is loosely clamped against the wall. Then rotate the Wallplate and position as shown to align the arrow and release slot. Tighten the Mounting Bush with a 24 mm A/F spanner.



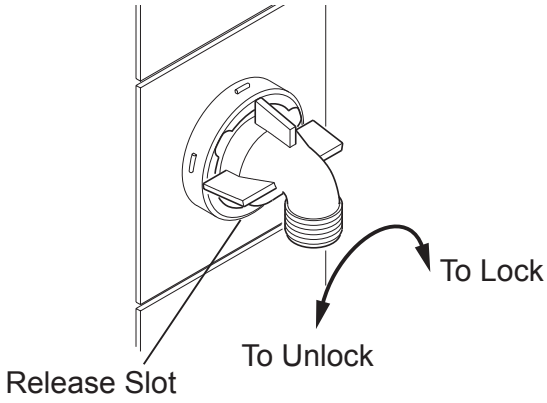
3.14 Push the Elbow fully into the Wallplate and rotate it clockwise. A "click" will indicate when it is locked. To unlock, use a small flat blade screwdriver and insert it into the release slot on the underside. Then turn the Elbow anticlockwise until it is released from the Wallplate.

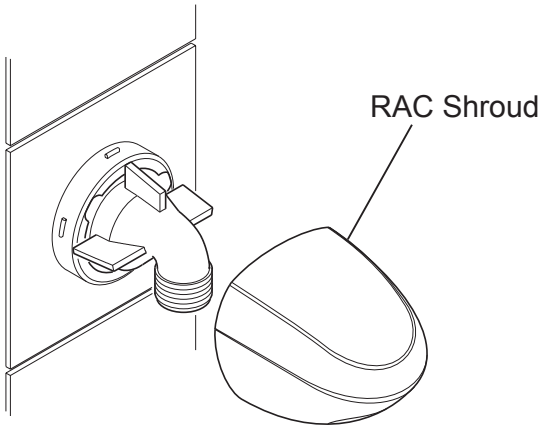


3.15 Locate the Shroud over the Elbow, then carefully push until it "clicks" into place securely.

3.16 Fit the **Shower Fittings.** Refer to the **"Shower Fittings Installation and User Guide"** for further details.

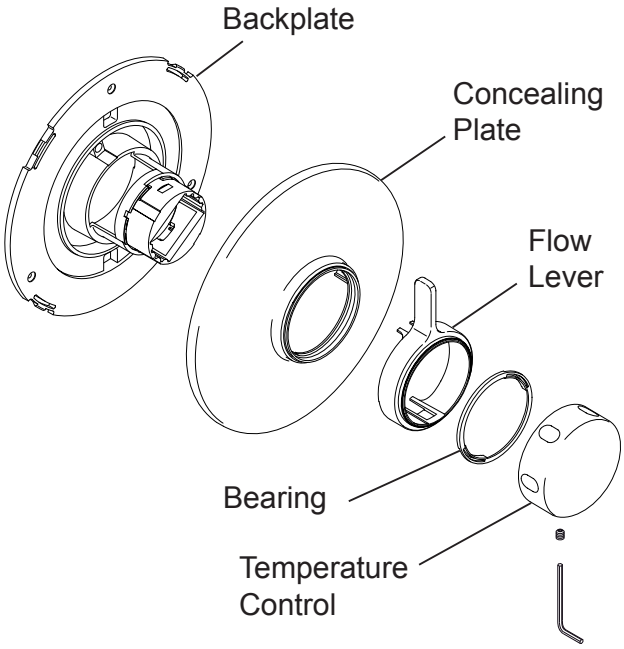
Note! For high pressure systems, a 12 litre/minute white Flow Regulator (supplied) can be fitted under the Hose Washer.





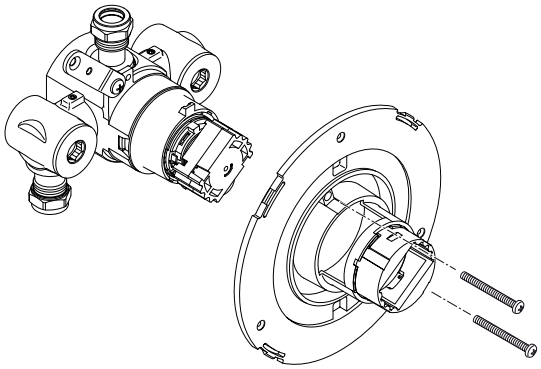
Control Assembly (Built-in Model)

1.



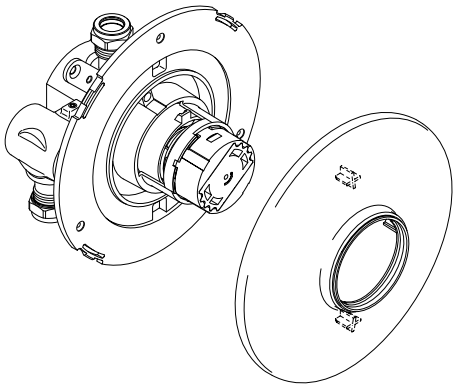
Carefully separate the control assembly as shown.

2.



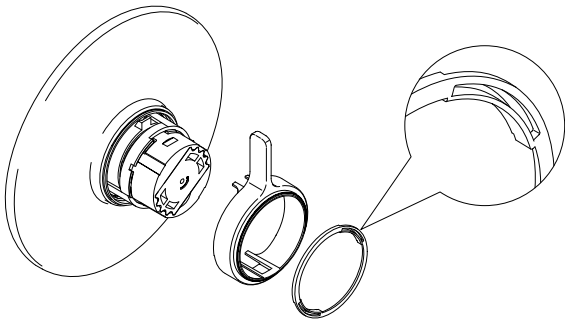
Attach the Backplate using the two Shroud Screws removed previously. Tighten the screws until the foam seal is compressed against the finished wall. **Do not** overtighten.

3.



Locate the Concealing Plate onto the Backplate and push firmly until it “snaps” into place. Make sure the slot is at the bottom of the plate.

4.



Locate the Flow Lever and push firmly into place. Fit the Bearing onto the Flow Lever.

Refer to section: “Commissioning” for final assembly.

REVERSED INLET SUPPLIES

The Mira Select Thermostatic Mixer is supplied with inlet connections **Hot - Left, Cold - Right** and **Bottom - Outlet** as standard. If the hot and cold water supply pipes have been reversed during installation, the Thermostatic Cartridge must be removed and rotated 180°.

Exposed Model:

1. Isolate the hot and cold water supplies. Remove the Temperature Control Handle with the 2.5 mm Hexagon Key and remove the Flow Control Lever.
2. Remove the Bearing, which will unlock part “A”.
3. Rotate the white section of part “A” clockwise by 90° then pull forward to remove. Pull part “B” forward and remove to get access to the Thermostatic Cartridge.
4. Locate the ‘O’ Key (supplied) onto the Cartridge Nut and turn anticlockwise. Unscrew fully and pull the Cartridge from the unit.
5. Rotate the Cartridge 180°.
6. Make sure that the two Inlet Seals are fitted and carefully push the Cartridge back into the unit, aligning the lugs into the slots.

   Note! Check that the Cartridge lug stamped **“H”** is aligned with the hot inlet supply.

   Important! Take care when fitting the Cartridge. Damage to the Cartridge Inlet Seals may result in dripping from the Shower Head.
7. Tighten the Nut by turning the ‘O’ Key clockwise.
8. Refit the controls in reverse order. Make sure the shower operates correctly. Refer to section: **“Commissioning”** for further details.

Built-in Model:

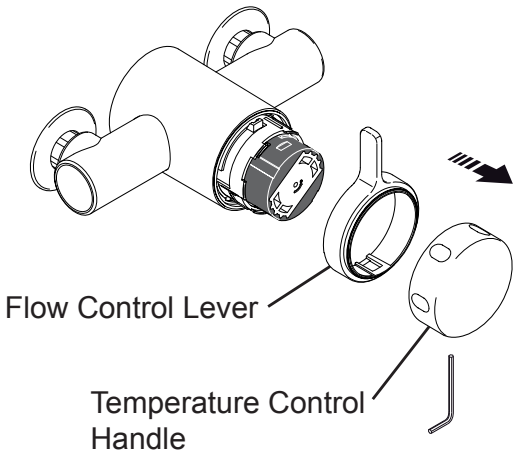
1. Isolate the hot and cold water supplies. Remove the Temperature Control Handle with the 2.5 mm Hexagon Key. Remove the Bearing and the Flow Control Lever.
2. Carefully unclip the Concealing Plate from the Backplate.

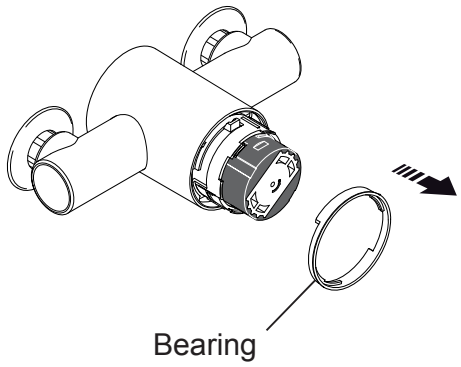
   Note! Use a suitable screwdriver in the cutout to assist separation.
3. Unscrew the two Shroud Screws and remove the Backplate. Pull red part “B” forward and remove to get access to the Thermostatic Cartridge.
4. Locate the ‘O’ Key (supplied) onto the Cartridge Nut and turn anticlockwise. Unscrew fully and pull the Cartridge from the unit.
5. Rotate the Cartridge 180°.
6. Make sure that the two Inlet Seals are fitted and carefully push the Cartridge back into the unit, aligning the lugs into the slots.

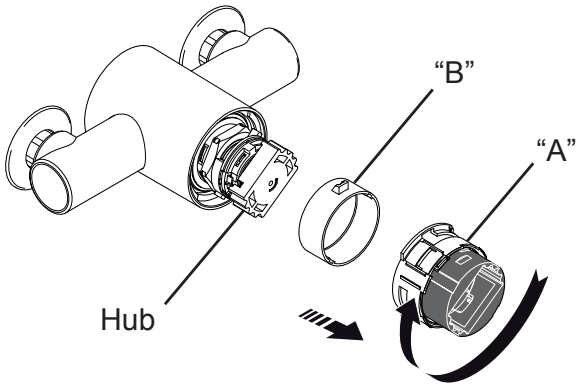
   Note! Check that the Cartridge lug stamped **“H”** is aligned with the hot inlet supply.

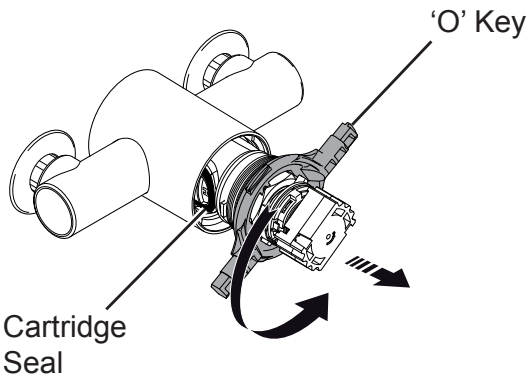
   Important! Take care when fitting the Cartridge. Damage to the Cartridge Inlet Seals may result in dripping from the Shower Head.
7. Tighten the Nut by turning the ‘O’ Key clockwise.
8. Refit the controls in reverse order. Make sure the shower operates correctly. Refer to section: **“Commissioning”** for further details.

Exposed Model

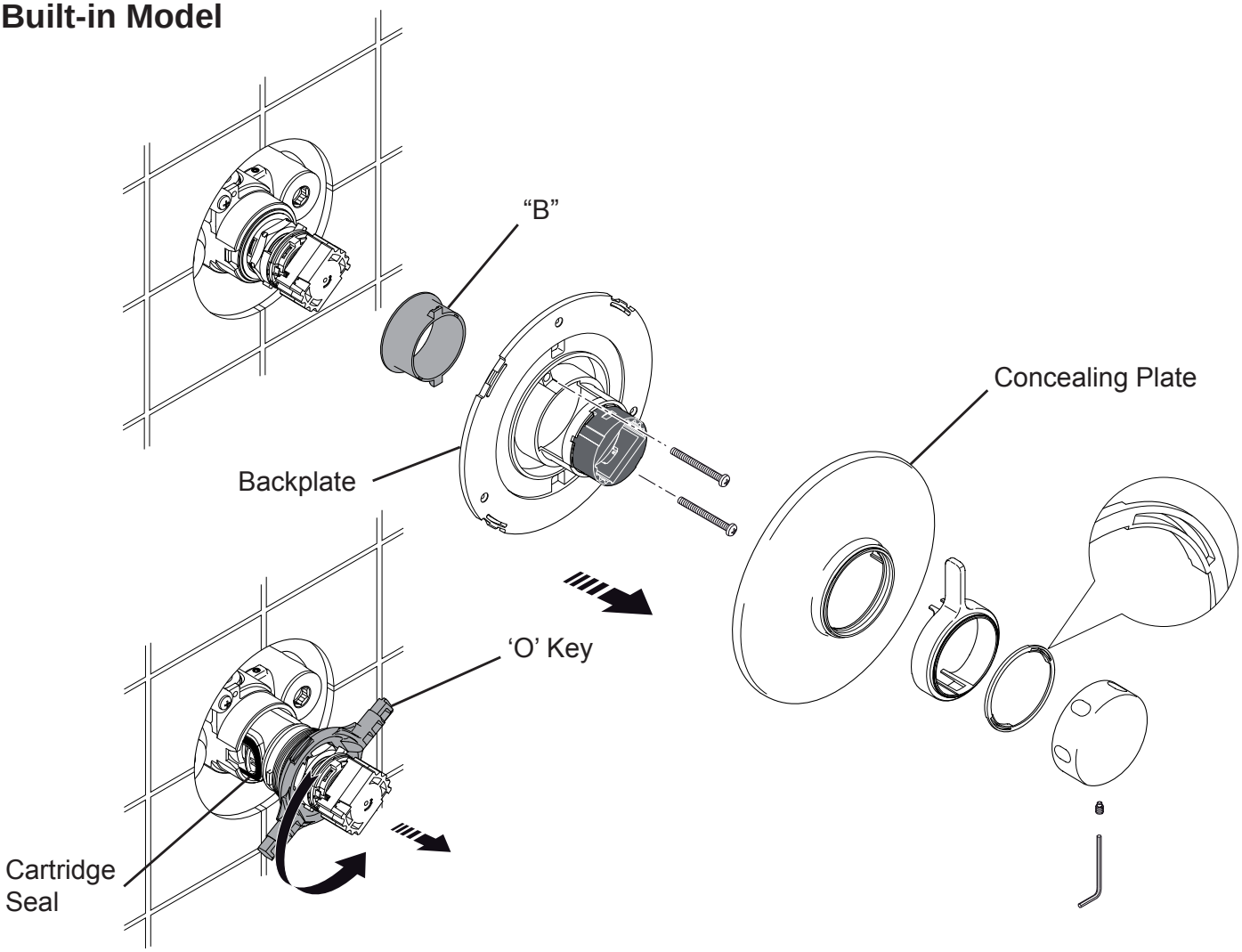








Built-in Model



COMMISSIONING

Maximum Temperature Setting

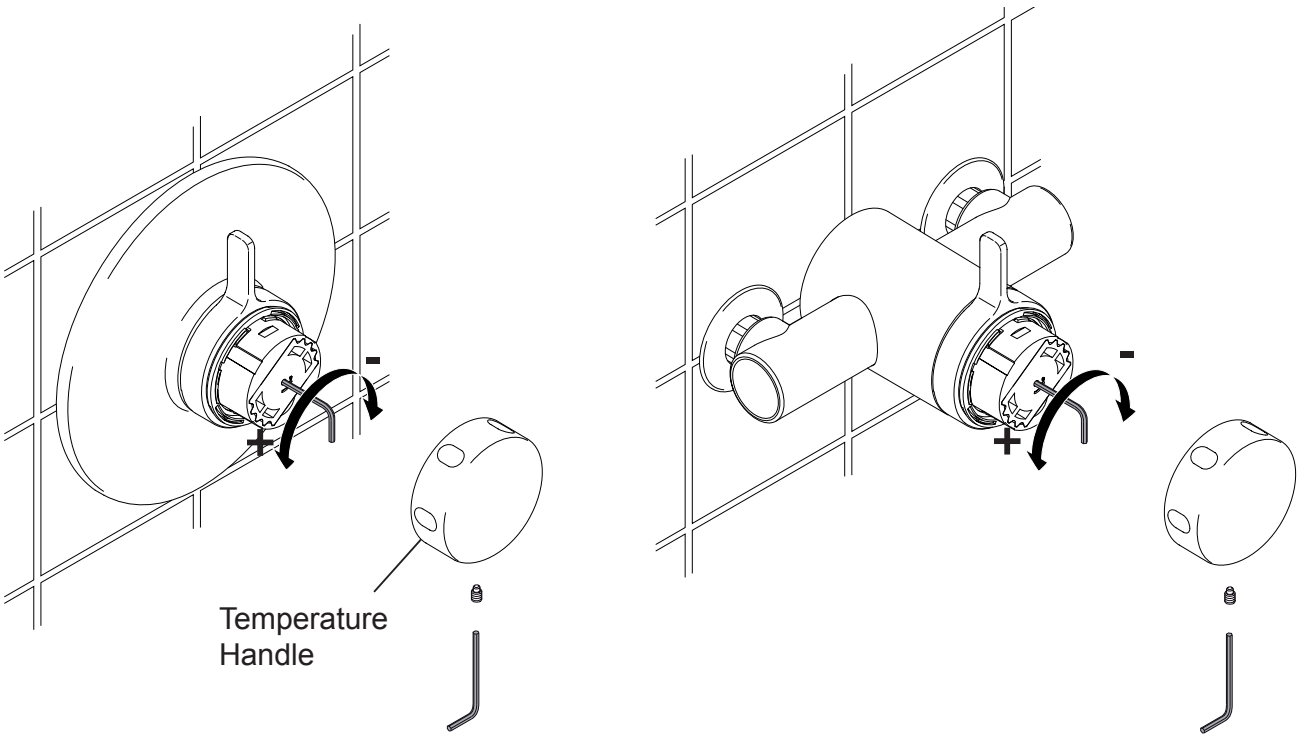
Before using the shower, the maximum temperature level must be checked to make sure that it is safe. It has been preset to approximately 43°C at the factory, but due to variations in site conditions the maximum temperature may need adjustment.

Note! Make sure that the hot water temperature is at least 55°C and that there is a sufficient supply.

Turn on the shower to maximum flow and temperature (i.e. both controls fully anticlockwise) and allow the temperature to stabilise.

If the temperature is too hot or too cold adjust as follows:

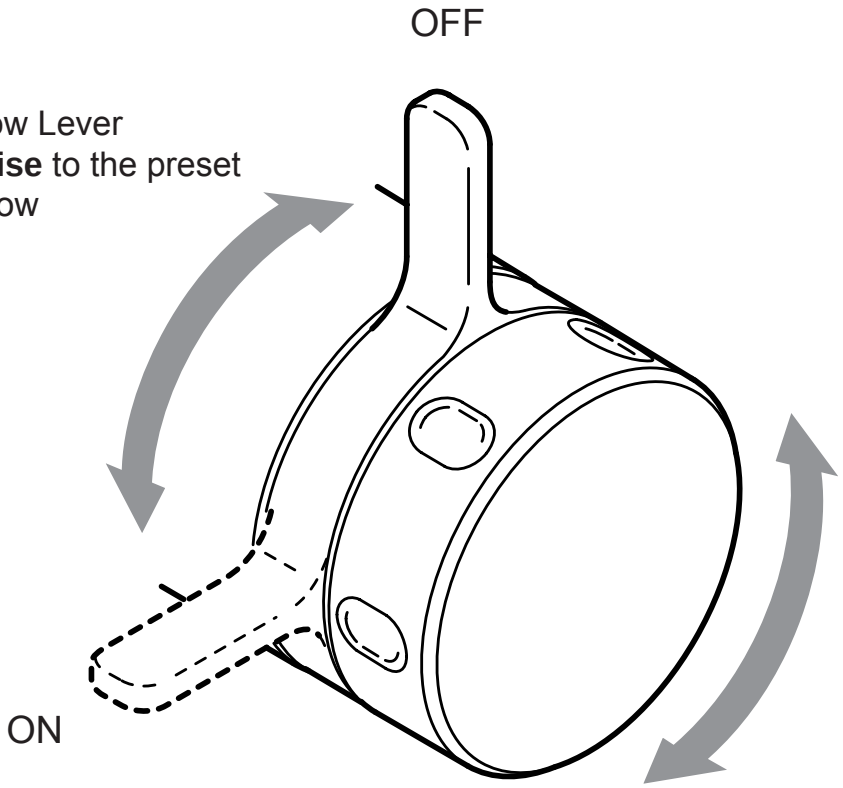
1. Using the 2.5 mm Hexagon Key provided, unscrew and remove the Temperature Control Handle
2. Insert the 2.5 mm Hexagon Key into the centre of the Green Hub and engage with the hidden Temperature Adjust Screw.
3. Turn the Hexagon Key until the required maximum showering temperature is obtained. Turn anticlockwise to increase or clockwise to decrease the temperature (¼ turn = approximately 1°C).
4. Once the desired maximum blend temperature has been achieved, turn off the shower.
5. Refit the Temperature Control Handle.
6. Check that the showering temperature is correct. If the correct temperature setting cannot be achieved, refer to section: **"Fault Diagnosis"** for possible cause and rectification.



OPERATION

Shower Control (Exposed and Built-in Controls)

Note! The shower performance may be affected if other water appliances are operated whilst the shower is in use.



Caution! Do not force the Temperature Control Handle. If the desired temperature cannot be achieved, refer to the section **"Commissioning"** for maximum temperature adjustment.

FAULT DIAGNOSIS

Symptom		Cause / Rectification	
1.	Only hot or cold water from the outlet.	**a.**	Inlets reversed (hot supply to cold supply). Refer to section: **"Reversed Inlet Supplies"** for further details.
		b.	No hot water reaching the unit.
		c.	Check the Filters for any blockage.
		d.	Installation conditions outside operating parameters: refer to sections: **"Specifications"** and **"Commissioning"** for further details.
2.	Fluctuating or reduced flow rate.	**a.**	Check the Showerhead, Hose and Filters for any blockage.
		b.	Make sure the maintained inlet pressures are nominally equal and sufficient. Refer to section: **"Specifications"** for further details.
		c.	Make sure the inlet temperature differentials are sufficient. Refer to section: **"Specifications"** for further details.
		d.	Flow Regulator fitted incorrectly.
		e.	Airlock or partial blockage in pipework.
3.	No flow from the outlet.	**a.**	Check the Showerhead, Hose and Filters for any blockage.
		b.	Hot or cold supply failure.
4.	Blend temperature drift.	**a.**	Refer to symptom **2** above.
		b.	Significant supply temperature fluctuation.
		c.	Significant supply pressure fluctuation.
		d.	Faulty Thermostatic Cartridge. Renew.
5.	Maximum blend temperature setting too hot or too cold.	**a.**	Indicates incorrect maximum temperature setting. Refer to section: **"Commissioning"** for further details.
		b.	Refer to symptom **4** above.
6.	Water leaking from the Showerhead.	**a.**	Normal for a short period after shut off.
		b.	Check that the pressures are not in excess of the specifications for product. Refer to section **"Specifications"** for further details.
		c.	Cartridge Inlet Seals damaged. Renew.
		d.	Faulty Thermostatic Cartridge. Renew.
7.	Flow rate too low or too high.	**a.**	(Low) Insufficient supply pressures.
		b.	(High) Supply pressure too high. Install Flow Regulator.
		c.	Refer to symptom **2** above.

MAINTENANCE

General

This product is precision engineered and should give continued safe and controlled performance provided that:

1. It is installed, commissioned, operated and maintained in accordance with the manufacturer's recommendations.
2. Periodic attention is given, when necessary, to maintain the product in good functional order.

The Mira Select Thermostatic Mixer is designed to require the minimum of maintenance in normal use. The only serviceable parts are the inlet filters which should be checked and cleaned every 12 months. Refer to section **"Maintenance, Filters"** for further details. If a malfunction occurs with the Thermostatic Cartridge, this will necessitate a complete cartridge replacement.

Note! The cartridge contains no internally serviceable parts.

If you require a Mira trained engineer or agent, then refer to section: **"Customer Service"** on the back of this guide.

Lubricants

Silicone based lubricants must only be used on the rubber seals.

Warning! Oil based or other lubricant types may cause rapid deterioration of the seals.

Cleaning

The chrome plated parts should be cleaned using a mild washing up detergent or soap solution, rinsed and then wiped dry with a soft cloth.

Warning! Many household cleaners contain abrasive or chemical substances and should not be used for cleaning plated or plastic fittings.

Do not use descalents on this product.

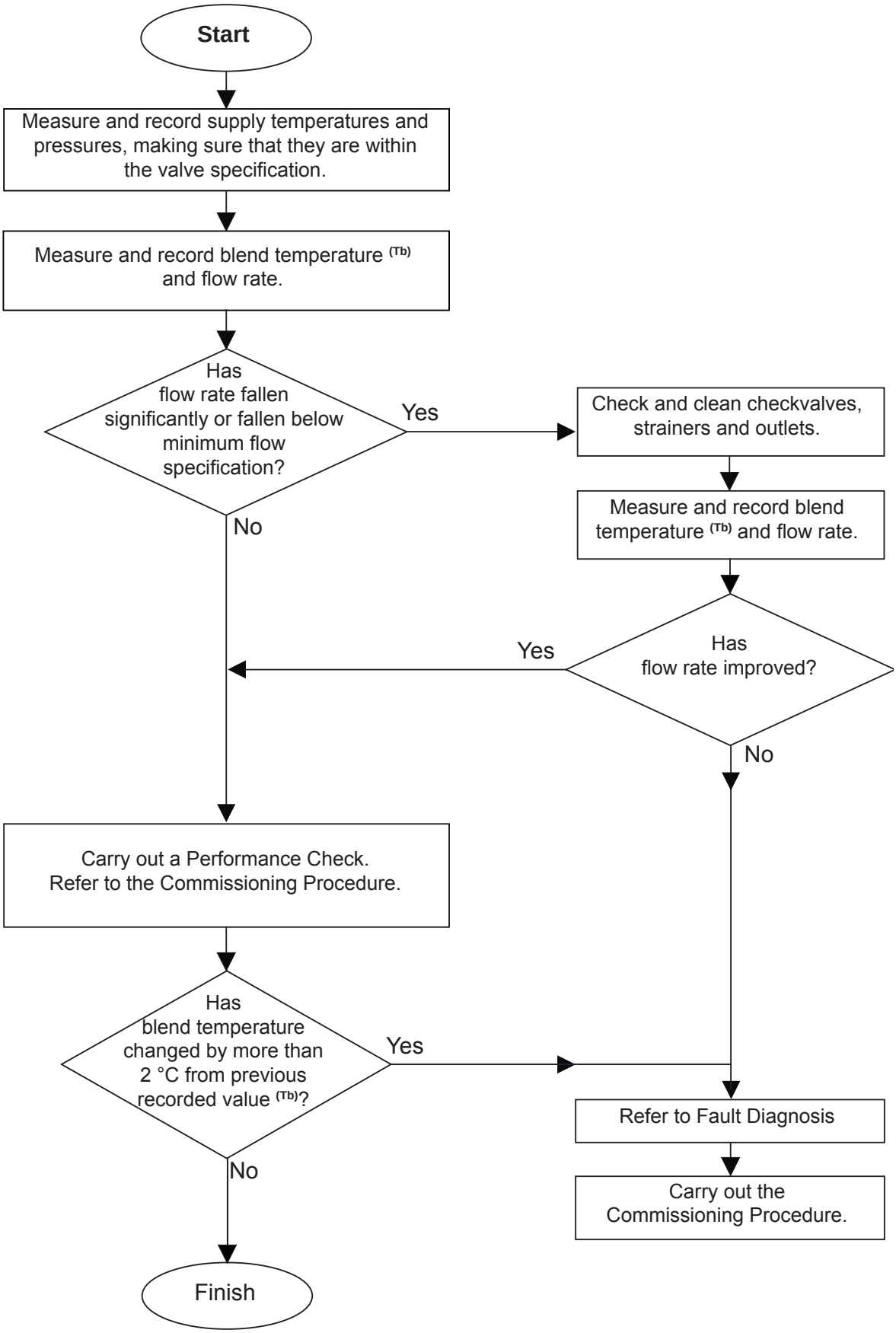
In-service Tests

The primary method for determining the continued satisfactory performance of the mixing valve is the in-service test. Follow the procedure detailed in the flow diagram **"In-Service Test Procedure"** for further details.

Frequency of In-Service Tests - Commercial (non-domestic installations)

Check for correct blend setting every 6 months.

Follow the procedure detailed in the flow diagram **"In-Service Test Procedure"** every 12 months.



Note! All measurements and results should be recorded in the Log Book.

Flow diagram
In-service Test Procedure

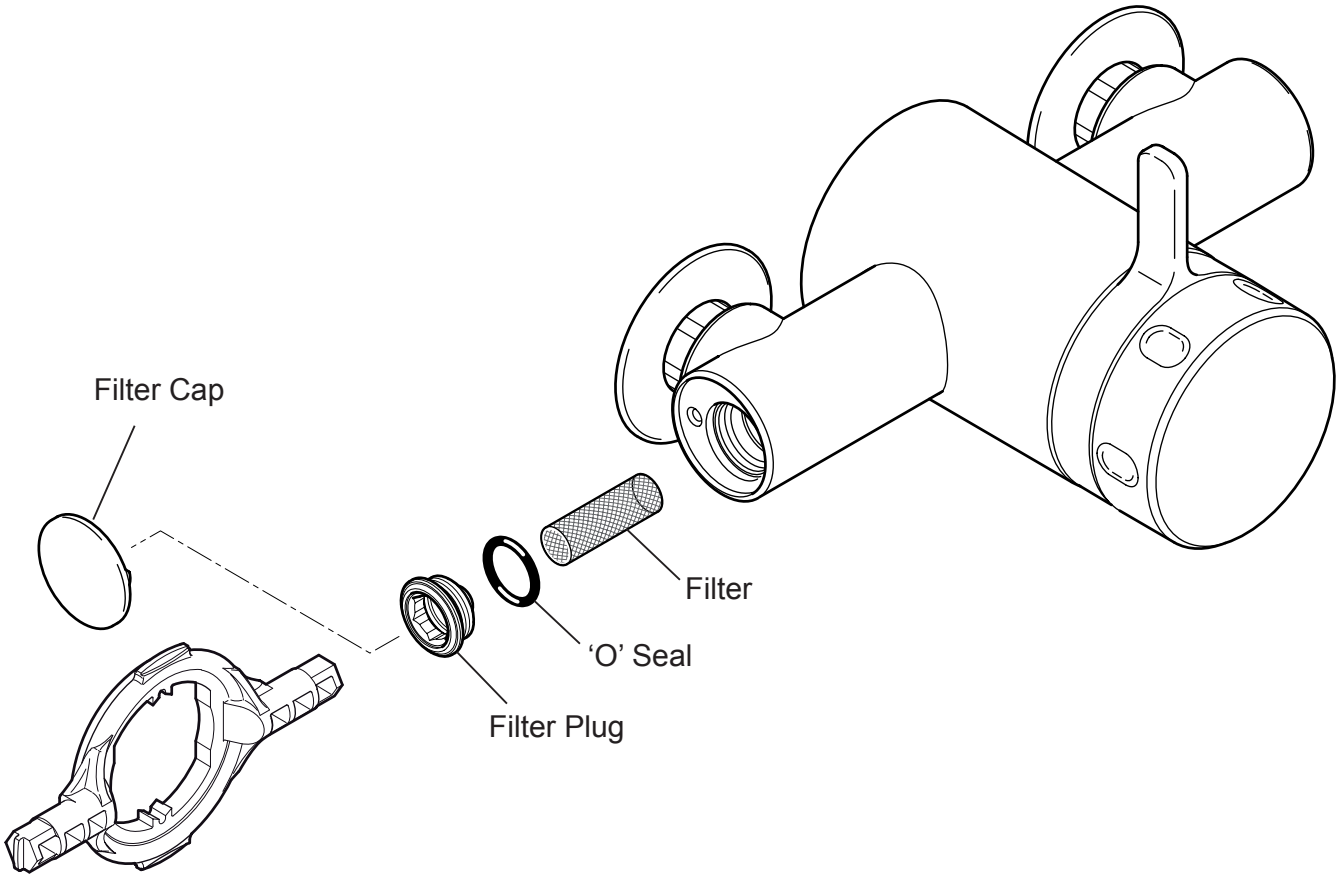
Inlet Filters

The Inlet Filters should be checked and cleaned as necessary every 12 months.

Note! The Inlet Filters must not be removed except for cleaning. If the unit is operated without the Inlet Filters fitted, the warranty on the product will be void.

Exposed Models

1. Isolate the hot and cold water supplies and operate the Flow Control Lever to drain any residual water.
2. Carefully remove the Filter Caps and unscrew the Filter Plugs with the ‘O Key’ (supplied) or a 12 mm hexagonal wrench. Remove the Filters.
3. Clean the Filters under a jet of water to remove any lodged particles.
4. Refit the Filters and tighten the Filter Plugs.
   Note! Make sure that the ‘O’ seal is fitted correctly and undamaged.
5. Turn on the hot and cold water supplies and check for leaks.
6. Refit the Filter Caps.

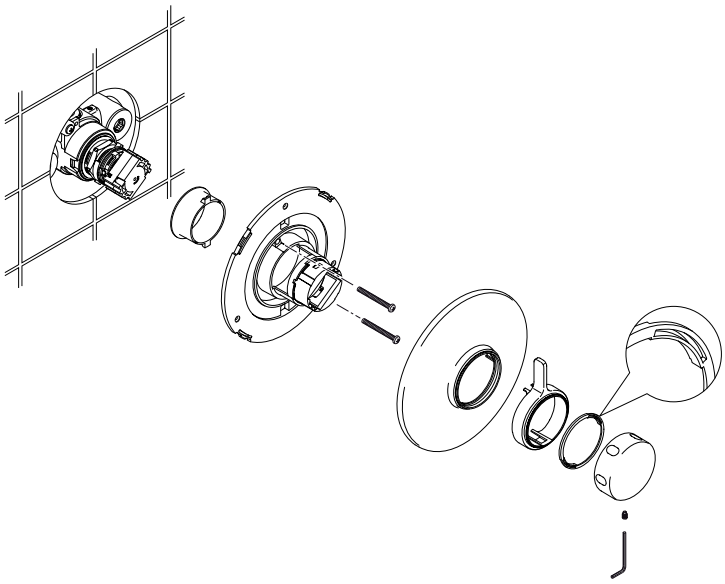


Built-in Models

1. Isolate the hot and cold water supplies and operate the Flow Control Lever to drain any residual water.

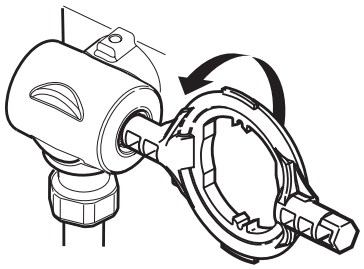
2. Loosen the Grubscrew to remove the Temperature Control Handle. Then remove the Flow Control Lever.

3. Carefully unclip the Concealing Plate from the Backplate.
Note! Use a suitable screwdriver in the cutout to assist separation.



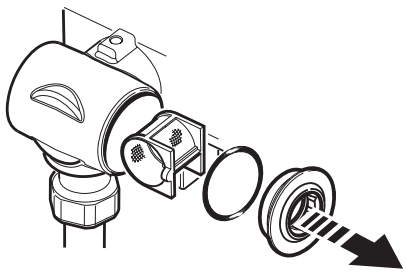
4. Unscrew the two Shroud Screws and remove the Backplate from the Mixer.

5. Unscrew the Filter Plugs with the 'O Key' (supplied) or a 12 mm hexagonal wrench and remove the Filters.
Note! Use pliers to remove the filters carefully.



6. Clean both filters under a jet of water to remove any lodged particles.

7. Refit the Filters and tighten the Filter Caps.
Note! Make sure that the seal is fitted correctly and undamaged.



8. Turn on the hot and cold water supplies and check for leaks.

9. Refer to section: **"Control Assembly (Built-in Models)"** and follow the instructions to replace the Concealing Plate and Handles.

TYPE 2 VALVES

Application

The approved designations for Type 2 valves are as follows:

Model	Designation Code
Mira Select	HP-S / LP-S

The permitted application details are:

Designation	Operating Pressure Range	Application	Mixed Water Temperature† °C
HP-S	High Pressure	Shower	41 °C maximum
LP-S	Low Pressure	Shower	41 °C maximum

† Mixed water temperature at discharge point.

In order to achieve the safe water temperatures expected of a Type 2 valve, it is essential that the unit is used only for the applications covered by its approved designations, with the appropriate water supply pressures and temperatures. It must be commissioned, maintained and serviced in accordance with the recommendations contained in this guide. Refer to section **"Maintenance, In-Service Tests"** for the in-service test frequency that must be used as a minimum guide in Type 2 installations.

Supply Conditions

For applications where a Type 2 valve is required, the supply conditions must comply with the values in the table below. Note that both hot and cold supply pressures must lie within the same pressure range.

Supply Conditions	High Pressure HP	Low Pressure LP
Maximum Static Pressure - bar	10	10
Maintained Pressure, Hot and Cold - bar	1 to 5	0.2 to 1
Hot Supply Temperature - °C	55 to 65	55 to 65
Cold Supply Temperature - °C	< 25	≤ 25

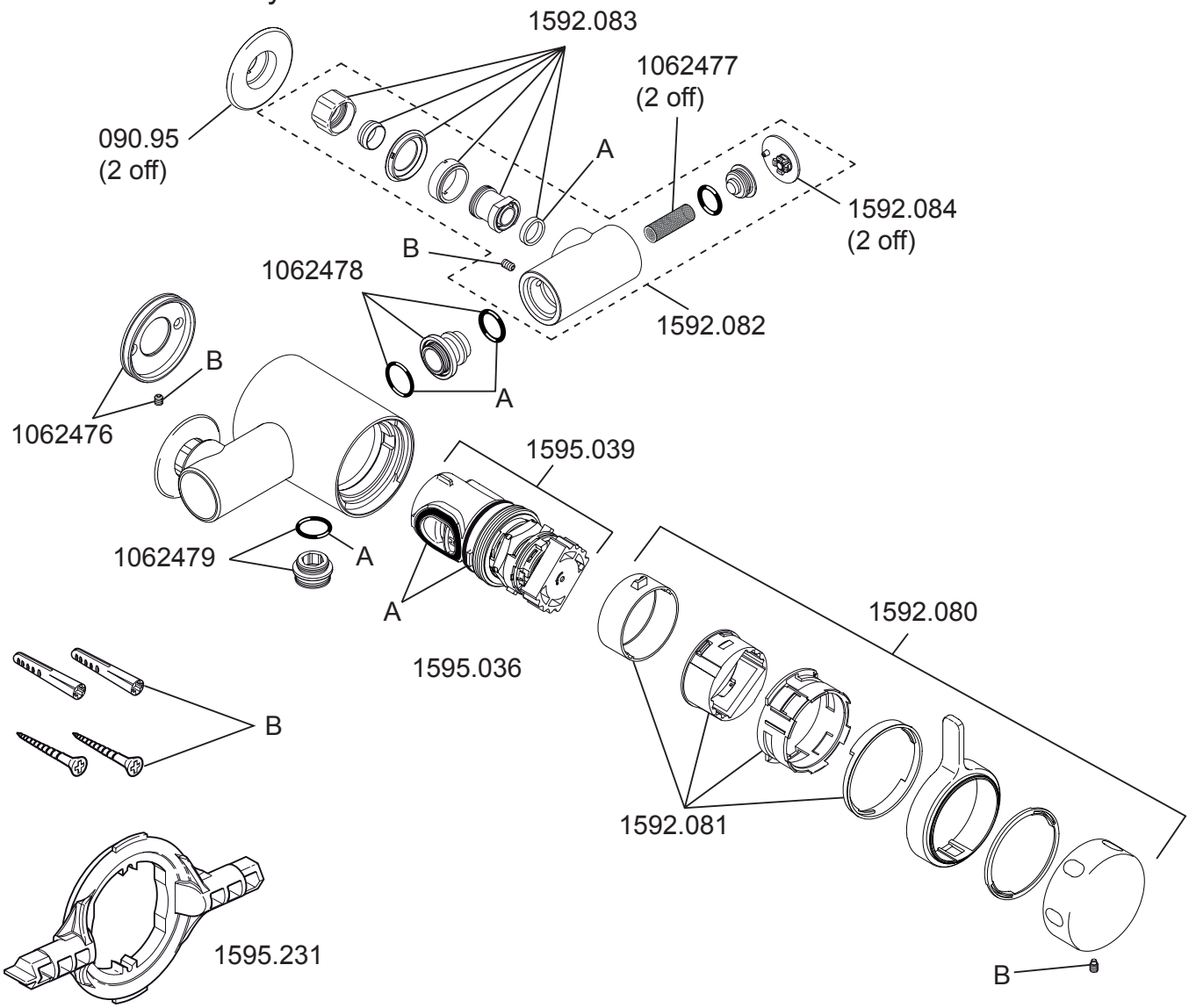
Caution! The mixed water temperature at the terminal fitting should never exceed 46°C.

Units operating outside these conditions cannot be guaranteed to operate as Type 2 valves.

SPARE PARTS

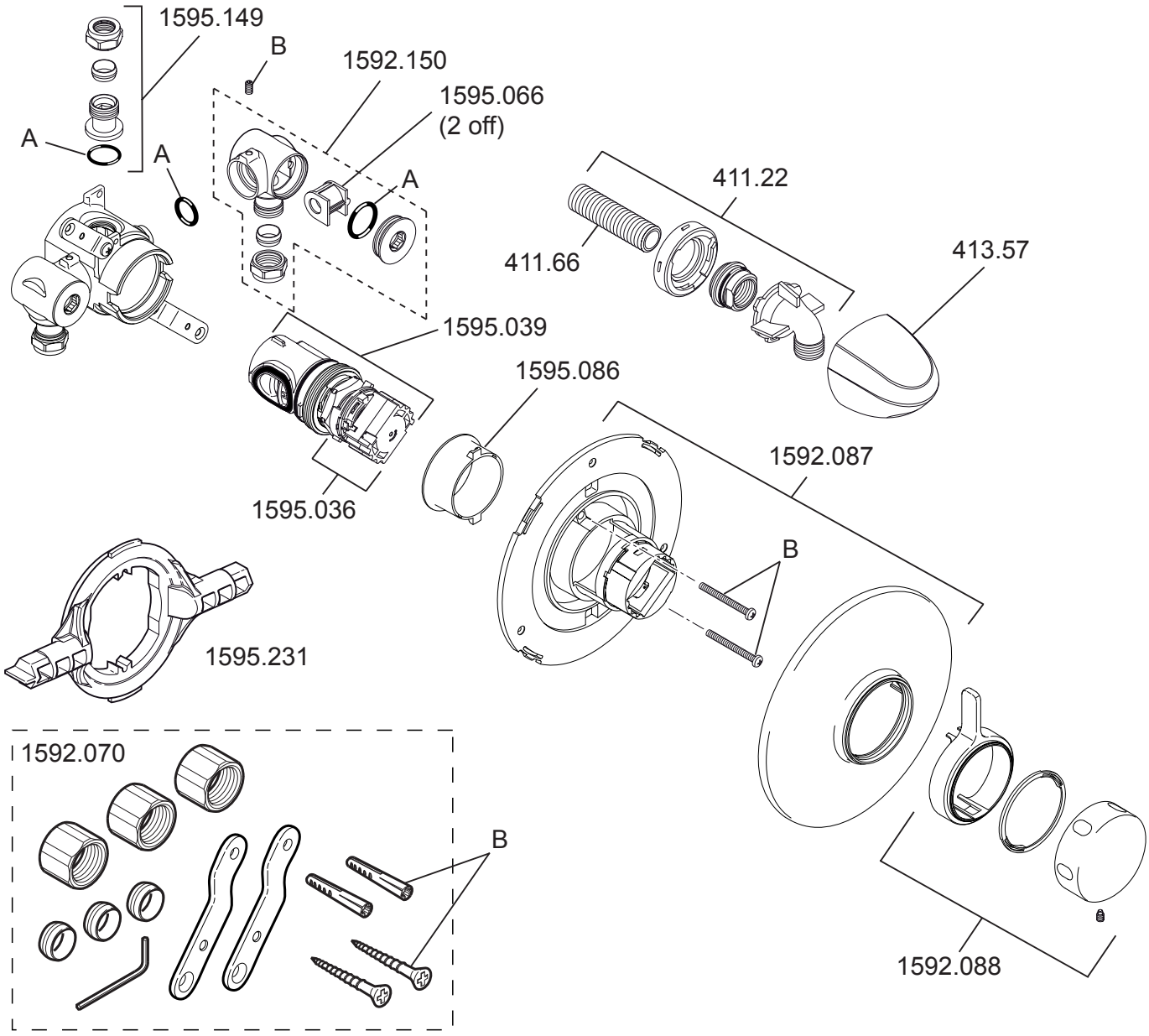
Exposed Select Thermostatic Mixer

090.95	Pipe concealing plate (x 2)
1062476	Backplate
1062477	Filter Pack (x 2)
1062478	Elbow Connector Pack
1062479	Outlet Connector Pack
1592.080	Handle Pack
1592.081	Handle Adaptor Pack
1592.082	Elbow Assembly
1592.083	Adjustable Inlet
1592.084	Filter Cap (x 2)
1592.085	Seal Pack (identified ‘A’)
1595.036	Temperature Hub Assembly
1595.039	Cartridge Assembly
1595.067	Screw Pack (identified ‘B’)
1595.231	‘O’ Key



Built-in Select Thermostatic Mixer

411.22	RAC Mounting Pack
411.66	Brass Nipple
413.57	RAC Shroud-chrome
1592.086	Flow Lever Adaptor Pack
1592.087	Concealing Plate Assembly
1592.088	Handle Pack
1592.231	'O' Key
1595.036	Temperature Hub Assembly
1595.039	Cartridge Assembly
1595.046	Seal Pack (identified 'A')
1595.066	Filter Pack (x 2)
1595.067	Screw Pack (identified 'B')
1595.070	Component Pack
1595.149	Outlet Connector Pack
1595.150	Elbow Assembly



CUSTOMER SERVICE

Guarantee of Quality

Mira Showers guarantee your product against any defect in materials or workmanship for the period shown in the Guarantee Registration Document included with your shower.

Alternatively, to confirm the applicable guarantee period please contact Customer Services.

To validate the guarantee, please return your completed registration card.

Within the guarantee period we will resolve defects, free of charge, by repairing or replacing parts or modules as we may choose.

To be free of charge, service work must only be undertaken by Mira Showers or our approved agents.

Service under this guarantee does not affect the expiry date.

The guarantee on any exchanged parts or product ends when the normal product guarantee period expires.

Not covered by this guarantee:

Damage or defects arising from incorrect installation, improper use or lack of maintenance, including build-up of limescale.

Damage or defects if the product is taken apart, repaired or modified by any persons not authorised by Mira Showers or our approved agents.

This guarantee is in addition to your statutory and other legal rights.

Before using your Shower

Please take the time to read and understand the operating and safety instructions detailed in this manual.

What to do if something goes wrong

If when you first use your shower it doesn't function correctly, first contact your installer to check that installation and commissioning are satisfactory and in accordance with the instructions in this manual. We are on hand to offer you or your installer any advice you may need.

Should this not resolve the difficulty, simply contact our Customer Services Team who will give every assistance and, if necessary, arrange for our service engineer to visit. If the performance of your shower declines, consult this manual to see whether simple home maintenance is required. Please call our Customer Services Team to talk the difficulty through, request a service under guarantee if applicable, or take advantage of our comprehensive After-Sales service.

As part of our quality and training programme calls may be recorded or monitored.

Our Customer Services Team is comprehensively trained to provide every assistance you may need: help and advice, spare parts or a service visit.

Spare Parts

We maintain an extensive stock of spares and aim to provide support throughout the product's expected life.

Spares can be purchased from approved stockists or merchants (locations on request) or direct from Customer Services.

Spares direct will normally be despatched within two working days. Payment can be made by Visa or MasterCard at the time of ordering. Should payment by cheque be preferred, a pro-forma invoice will be sent.

Note! In the interests of safety, spares requiring exposure to mains voltages can only be sent to competent persons.

Service

Our Service Force is available to provide a quality service at a reasonable cost. You will have the assurance of a Mira trained engineer/agent, genuine Mira spare parts and a 12 month guarantee on the repair.

Payment should be made directly to the engineer/agent using Visa, MasterCard or a cheque supported by a banker's card.

To Contact Us

England, Scotland, Wales & Northern Ireland

Mira Showers Customer Services

Telephone: 0870 241 0888, Mon to Fri 8:00 am - 5:30 pm
Sat 8:30 am - 3:30 pm

E-mail: technical@mirashowers.com

Fax: 01242 282595

By Post: Cromwell Road, Cheltenham, Gloucestershire, GL52 5EP

Republic of Ireland (Eire)

Modern Plant Ltd (Dublin)

Telephone: 01 459 1344, Mon to Fri 9:00 am - 5:00 pm

E-mail: sales@modernplant.ie

Fax: Dublin 01 459 2329

Post: Otter House, Naas Road, Clondalkin, Dublin 22

Modern Plant (Cork)

Telephone: 021 496 8755, Mon to Fri 9:00 am - 5:00 pm

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